UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

CITY OF IRRIGON
APPLICATION FOR PURCHASE OF LAND
pursuant to the
RECREATION & PUBLIC PURPOSES ACT
SERIAL NUMBER OR 55163

ENVIRONMENTAL ASSESSMENT #OR-035-99-05
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Morrow County, Oregon

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Table of Contents

I. Introduction

A. Purpose and Need for Proposed Action

The City of Irrigon (the City) has made an application to the Bureau of Land Management (BLM or the Bureau) to purchase land pursuant to the Recreation and Public Purposes (R&PP) Act. The purpose for acquiring the land is to construct and operate a wastewater treatment facility for the treatment and disposal of the City's wastewater.

A new facility is needed because the existing disposal facility is no longer adequate. Population growth in recent years has placed a tremendous strain on the existing facility. As a result, the City has been unable to consistently meet its permit requirements.

The City's present wastewater system is regulated by the Oregon Department of Environmental Quality (DEQ) under a Mutual Agreement and Order (MAO), and a Water Pollution Control Facilities Permit. On November 25, 1998, Oregon DEQ issued an addendum to the MAO which included a provision that the City is to limit the number of new residential connections to 100, beginning November 2, 1998 and extending until new or modified wastewater facilities are constructed. As of February 1, 2001, 91 of those connections had been made, leaving only nine remaining. Continued growth in the town will be severely hampered until new facilities are on line.

B. Background Information

The City of Irrigon was incorporated in 1957 as a result of residential growth in the area caused by the construction of nearby McNary Dam. Since that time, the population has grown quite steadily, except for the period 1984-1990 when the City experienced a decline. By the end of 1998, the population was reported to be 1447, virtually double the 1990 figure of 737 and 547 above the previous peak of 900 in 1984. Preliminary figures from the 2000 census indicates the population is now around 1650, an increase of another 14% in less than two years.

Residential development has been the predominant land use in Irrigon. There is a moderate amount of commercial development along Highway 730 and some recreational development along the Columbia River at the north edge of town. There is no industrial base. To a large extent, it serves as a bedroom community for the Hermiston, Boardman, and Tri-Cities areas, as well as for nearby agricultural employers and the Umatilla Army Depot.

The City's wastewater disposal system currently consists of individual septic tanks (about 522 at this writing), a conveyance system (pipelines and lift stations), and rapid infiltration basins. The septic tanks in Irrigon are fitted with a screened outlet to prevent debris larger than ¼ inch in

size from entering the conveyance system. Therefore, any scum or solids larger than ¼ inch are retained in the septic tanks.

This clarified septic tank effluent is then transported through the conveyance system to the disposal site. This site was designed, constructed, and put into operation during the period of 1986 to 1989. The disposal site is a two-acre area on the north side of Highway 730, a short distance east of town. The site consists of 11 lagoon basins, known as rapid infiltration (RI) basins. After the effluent reaches the site, it is discharged to the ground through the rapid infiltration basins. As noted previously, this system is no longer adequate due to population growth and the increasing number of connections to the sewage system.

C. Conformance with BLM Land Use Plans

The site of the proposed action lies within the area covered by the Baker Resource Management Plan (RMP), approved July 12, 1989. It is within a Land Tenure Zone 2 - Disposal, as designated in the RMP. Lands in this zone are considered to be inefficient to manage because of their small size or isolated location, or that have no known, or lower, resource values. These lands are to be available for disposal actions (i.e. transfer out of BLM jurisdiction) pending a site-specific environmental analysis.

This land disposal action contemplated ranks second in the preferred order for disposal stated in the RMP, which is: Transfers to State and local agencies (R&PP and other actions). Number One in the preferred order is jurisdictional transfers to another Federal agency. There is no opportunity to transfer this parcel to another Federal agency.

Therefore, in light of the above, the Proposed Action is considered to be in conformance with the Baker RMP's land disposal guidance.

Additional RMP guidance pertinent to the Proposed Action is to "protect and maintain all National Register or National Register eligible cultural properties". Eligible sites that could be adversely affected by a project would be avoided or mitigated in consultation with the State Historic Preservation Office and National Advisory Council on Historic Preservation (Baker 1989 RMP Record of Decision: 42). The RMP gives directions regarding the evaluation, monitoring and mitigation of such properties. Further, the RMP assigns Cultural Resources "second" (behind only Threatened or Endangered Species) in the priority ranking for management of resource values. The rankings of the various resources are to be used when resolving resource use conflicts.

D. Relationship to Other Plans

Morrow County has zoned the area RR-1, meaning rural residential with one acre being the minimum lot size on which to build a home. The

proposed project is in conformance with the county's comprehensive plan and is allowable under a Conditional Use Permit.

E. Statutes, Laws, and Regulations Affecting the Proposal

The disposal action and transfer of title to the public land to the City of Irrigon would be authorized by the Recreation and Public Purposes Act of June 14, 1926, as amended (43 U.S.C. 869-4). This act authorizes the sale or lease of public lands for recreational or public purposes to State and local governments and to qualified nonprofit organizations. Appropriate public purposes under the Act includes public works projects such as the one considered here.

The R&PP Amendment Act of 1988 allowed for the disposal of public lands used for solid waste disposal or placement. Instruction Memorandum No. 94 -141 included municipal wastewater treatment plants in a list of facilities that might be subject to the amendment, and instructed Bureau offices to process applications for such facilities to a patent, rather than a lease. Therefore, it has been determined that this site would be sold and a patent issued. Department of Interior regulations for sales under the R&PP Act are found in Title 43 of the Code of Federal Regulations (43 CFR), part 2740. However, the BLM may lease the site temporarily if all requirements for a patent cannot be met before the City must begin construction to meet its deadlines. Regulations for R&PP leases are found in 43 CFR, part 2912.

The disposal of the public land is also authorized by Section 212 of the Federal Land Policy and Management Act of October 21, 1976 (FLPMA), which continues and amends the R&PP Act.

The National Historic Preservation Act of 1966 (16 U.S.C. 470f), Section 106 and Section 110, is applicable because of the presence of historic road traces on the subject parcel. Implementing regulations for sections of the Act are found at 36 CFR Part 60 and 800.

The wastewater facility would be subject to the County Zoning Ordinance and a Conditional Use Permit would be needed. It would also be subject to various State laws and DEQ regulations and permits. A construction permit from the State Building Codes Agency would be required.

F. General Setting of the Proposed Action

The site of the proposed action is an isolated public land parcel of approximately 19.05 acres, adjoining the east city limits of Irrigon, and about ½ mile from the east outskirts of town, near the northeast corner of Morrow County, Oregon. Its location is about six miles west of the town of Umatilla and about 12 miles east/northeast of Boardman. The north boundary of the Umatilla Army Depot is 2¼ miles to the south, and the Columbia River, or more specifically, Lake Umatilla (a.k.a. The John Day

Pool) is a little less than ¼ mile north. The parcel is bounded on the north by U.S. Highway 730, which at this point angles somewhat to the north as it runs east. It is bounded on the west by 15th Street, a paved county road, and on the south by Oregon Lane, a paved county road on this segment, and gravel further east. A small area of perhaps five acres in the northeast corner of the parcel is currently withdrawn to the Army Corps of Engineers.

See also Appendix A, which has two maps showing the location of the subject parcel.

The topography of the parcel is nearly flat with a few small gentle knolls and ridges. Elevation ranges from just under 290 to 300 feet. The general area slopes very gently to the north/northwest toward the Columbia River. Climate of the area is semi-arid with hot summers and moderately cold winters. Temperatures can top 100 degrees in the summer and occasionally dip to zero in the winter. Typical annual precipitation is around nine inches.

A variety of uses exist on adjacent and nearby lands. These include a cemetery, storage units and mobile home parking, storage and parking of equipment by the local irrigation district, gravel pits, some large sheds owned by Strebin Farms, a small irrigated pasture grazed by horses, and large areas of irrigated agriculture.

North across the highway, between the highway and the Columbia, is land owned by the Army Corps of Engineers and managed for wildlife habitat by the Oregon Department of Fish & Wildlife. Included is a small parking area and some walking trails. This area presumably receives some casual sightseeing and wildlife viewing by the public. Further west, just northwest of the parcel, are the present wastewater treatment facilities for Irrigon.

There are at least five homes, four of them occupied, within a quarter mile of the parcel. This includes one just off the southeast corner across the road, and another a few hundred feet east of the parcel in a grove of trees. The owner of the irrigated pasture adjoining the east edge of the parcel is considering developing that tract for homesites.

II. Description of the Alternatives

A. Alternative A - The Proposed Action

The Proposed Action is the sale of approximately 19.05 acres of public land to the City of Irrigon under the authority of the Recreation and Public Purposes Act. The decision that must be made is whether the land is to be classified as suitable for lease or conveyance under the Act and, if so, whether this specific proposal is to be approved and the land transferred to the City. The five acres of the parcel withdrawn by the Corps of Engineers would be included, with concurrence by the Corps. Pursuant to the Act, the United States would retain the mineral rights. The patent would include a limited reverter clause, that is, if the proposed project is not constructed within five years of patent issuance, the property would revert to the United States. The patent would be subject to valid existing rights-of-way. It would also be subject to a Memorandum of Agreement (MOA) entered into by the City, BLM, and the State Historic Preservation Office (SHPO) and potentially other affected interests. The purpose of the MOA would be to implement agreed upon mitigation measures for compliance with the National Historic Preservation Act. BLM would identify on-the-ground locations of the historic road traces and areas for avoidance of any ground disturbing activities for both short term and long term implementation.

The location of the subject BLM parcel is a short distance east of Irrigon and is legally described as follows:

> Willamette Meridian, Township Five North, Range 27 East, section 20, lot 2.

See also maps showing the location of the parcel, Appendix A (2 pages).

The purpose of the land transfer to the City is to provide a location for the City to construct and operate a wastewater treatment plant to handle the City's wastewater after it is collected and conveyed from the individual homes and businesses. This new plant would completely replace the existing facility, which is located across Highway 730 from the northwest corner of the proposed site. Once the new facilities are in operation, the existing site would be reclaimed by filling in the basins with soil and restoring the natural contour, then seeding the site to native vegetation.

The structures and facilities that would be constructed on the parcel consist of the following. See also Appendix B, which shows the facilities layout for the Proposed Action.

- an extended aeration earthen basin, called a Biolac basin, split into two cells, 205' x 128.5' (total footprint) x 12' deep;
- a concrete integral clarifier, adjoining and built into the Biolac basin,

20' x 20' by 12' deep, with about 2 feet extending above ground level;
- a facultative sludge lagoon, 90' x 270' x 12' deep;
- 8 rapid infiltration (RI) basins, 150' x 125' x 3' deep;
- an influent screening facility located next to the Biolac basin, consisting of 12-foot screens tilted into an 18-inch wide wastewater channel**;** facility would be under a 12-foot high canopy;
- if needed to control odors, a building, approximately 20' x 20' and 12 feet high, to house the screening facility;
- a septage receiving station adjacent to the Biolac basin, consisting of a housekeeping concrete pad, receiving equipment sitting on a 20' x 15' concrete pad, an underground 5000-gallon concrete tank approximately 12 feet square by six feet deep, and sump pumps; may be covered by a 12-foot high canopy;
- a concrete diversion structure, 12' x 12' x 5' deep;
- one or two PVC pipelines either 4 or 6 inches in diameter, buried 4' deep, to transport the wastewater to the site and within the site;
- another pipeline to convey fresh water to the site, would be 10 feet from and parallel to the wastewater lines;
- electrical power supply, either buried or aerial, that would come off the existing line on Highway 730, run along 15th Street, then into the site;
- a masonry block lab building, 26' x 40' by 10' high;
- a 20' wide gravel roadway, off 15th Street, for access and maintenance;
- a parking area for up to eight vehicles;
- a 6' chain link fence around the perimeter of the facility;
- a sewage pumping station may be located alongside the road at the west end of the parcel, or may be located off the parcel on the southwest side of the intersection of 15th Street and Highway 730; would be an in-ground structure, with a vault lid; at the top of the buried vault there would be a concrete pad and electrical controls enclosed in a 30' x 30' fenced area.

Future facilities that could be constructed include a second Biolac basin with adjacent clarifier, another facultative sludge lagoon, and up to eight additional RI basins. The access road may be extended to encircle the Biolac basins after the second one is built.

The first Biolac basin and sludge lagoon, and the lab building and parking area, would be located in the southwest portion of the parcel. The first eight RI basins would be located in the east portion of the parcel, which would leave the central and northeast portions unoccupied for a time. The future Biolac basin would be just north of the first; the additional RI basins and sludge lagoon would “fill in” the central portion between the Biolac basins and the first eight RI basins. About 1.2 acres in the west central and northwest portions would be unoccupied and left undisturbed.

It is unknown at this time when the future facilities would be constructed. It would depend on the rate of growth of Irrigon and how soon it would

reach capacity of the first facilities. The plant is designed to handle waste from a population of 4031 when it first goes on line. After full expansion, it could accommodate a population of 8062.

The site would be graded as needed prior to excavation and construction. The pipelines would be installed in a trench 30 inches wide and 4 feet deep. The trench would be excavated with a backhoe and the pipe installed with hand labor. The diversion structure and clarifiers would be constructed out of concrete. They would be poured onsite in holes excavated by backhoe, and extend about 2-4 feet above ground. The aeration basin and sludge lagoon would be 12 foot deep ponds and lined with impervious synthetic liners to prevent leachate from migrating to the groundwater. They would be excavated by backhoe and the excavated material used as berm material. The RI basins would be shallow lagoons excavated with earth moving equipment and the excavated material used as berm material.

The small office lab building would be used for analyzing samples and keeping records. The entire site would be landscaped to give it a pleasing appearance, with some shrubs and/or trees planted on the perimeter. The area not occupied by basins or other facilities would be reseeded to native grass or covered with gravel. A chain link fence would be constructed around the site, and the entrance gate would be locked when city personnel are not present.

The routing of the wastewater and treatment process is described in the next few paragraphs.

1. Reception of Waste at the Facility

The proposed facility would receive waste from three sources:

- About 238 of the existing 522 septic tanks in town would be converted to a conventional gravity sewer system, and about 90% of future connections would be sewers. This wastewater would be transported to the site through a PVC force main. The objective of the conversion to the sewer system is to provide a higher strength waste stream, as compared to the existing septic tank effluent. The greater amount of solid matter would provide a greater food source for the micro-organisms which consume nitrates, which in turn enables the treatment processes to achieve a lower nitrate level in the treated effluent. The wastewater from the conventional sewers would require the preliminary treatment described later.

- The remaining 284 septic tanks in Irrigon would be retained and kept in service, and about 10% of future connections would be septic tanks. Clarified effluent from these tanks

would be transported to the site through the second PVC pipeline, or alternatively, may be mixed with the sewage wastewater at the sewage pumping station before it reaches the subject site. (If this is the case, the second wastewater line on into the site would not be built.) Each septic tank has a screened outlet to prevent any material larger than 1/4 inch in size from entering the system. Thus, the wastewater from the septic tanks has already been screened and clarified and would not require the "preliminary" treatment at the plant if it is not mixed with the sewage.

- The proposed facility would also receive septage (septic tank sludge) generated in the individual septic tanks in town. The septage would be periodically pumped from the tanks, hauled to the treatment facility, and metered into the treatment process. This would further strengthen the waste stream. It is anticipated that septage would be received infrequently.

2. Preliminary Treatment

Both the waste flow from the sewer system and the septage would require preliminary treatment before entering the secondary process described later.

Influent Screening

Treatment of the sewer system wastewater would consist of screening to remove grit, plastics, cloth, paper and other debris which might plug pipes or damage the plant equipment and processes. The sewer waste flow would be routed to the screening facility and through the screens. The screenings would be washed, de-watered by compaction, collected in an open dumpster, then hauled away by a local garbage hauler. After washing from the screenings, the fecal matter would be routed back into the waste stream for treatment by the secondary process, which is important for nitrate reduction.

Septage Receiving

The septage receiving system would grind all septage coming into the plant. The inorganic material would be screened out, washed, compacted and dewatered, then discharged to a dumpster to be hauled away. The screened septage would collect in the underground tank from where it would be pumped to the Biolac basin for the secondary treatment. Any spillage from septage receiving would be confined to the concrete housekeeping pad, from where it would drain to the underground tank. The tank would contain coarse air bubble diffusers that would minimize odors from the facility.

3. Secondary Treatment

The total waste stream, consisting of the septic tank effluent, gravity sewer system waste, and septage, would be routed to one of the operational in-ground lined aeration basins (known as "Biolac" aeration basins), where the secondary treatment process occurs.

The secondary treatment is a biological process. The important aspect of this process is the significant reduction of nitrogen. The process also reduces the Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) components of the waste. A mass of micro-organisms called activated sludge are developed and accumulated in an aerated basin and metabolize the nitrogen while consuming other pollutants as food. A Biolac system has diffused air equipment that achieves aeration and mixing by pumping air with an air compressor and a series of hoses secured with cables. Nitrification is achieved in the aerated lagoon because ammonia, the primary component of total nitrogen, is oxidized to nitrate. By properly sequencing the air supply to the air hoses, anoxic (no oxygen) zones can be created. It is in these anoxic zones that the nitrate is consumed, that is, the oxygen molecules are metabolized by the activated sludge and nitrogen gas is released.

A concrete secondary clarifier, called an integrated clarifier, would be built into the basin. In this design, a trough is formed in the bottom of the clarifier to collect the sludge. The Mixed Liquor Suspended Solids (MLSS) enter the secondary clarifier from the aeration basin. In the clarifier, MLSS (a mixture of micro-organisms and water) are separated by gravity settling. The micro-organisms (sludge) settle to the bottom where they are swept to the collection trough. The clear liquid effluent overflows the clarifier and runs through a pipeline to the discharge facilities. The sludge collected from the clarifier bottom is then routed to the facultative sludge lagoon.

4. Sludge Management

Sludge is a mixture of solids and liquid that is generated by the treatment process described above. Sludge management includes the process to stabilize, treat, thicken, and dispose of this sludge. The treatment is to result in a reduction of pathogens, vector attraction, and trace elements. Since Irrigon is a predominantly residential service area, trace elements are not a concern here.

The above process of stabilization, treatment and thickening would be accomplished in a facultative sludge lagoon (FSL). A FSL stores the sludge for a period of time in an open-air pond or lagoon. A 3-foot aerobic water cap would be maintained on the surface to prevent odors. The aerobic condition in the surface layers would

be achieved by growth of algae and atmospheric re-aeration. Addition of water to the cap periodically would also add air to the layer.

Over time, the sludge would cure and thicken in the lagoon. Periodically, the solids would be dredged from the bottom and loaded into a direct-injection truck, and hauled away for disposal on agricultural land. This process would occur every few years, depending on the volume of solids accumulated.

5. Disposal of Wastewater

From the process in #3. above, the treated effluent (the water remaining after the solids have been removed in the process) would be routed to one of the RI basins. From here, the water would enter the ground and percolate through about 15-20 feet of soil media, eventually reaching groundwater. Water quality compliance of the effluent would be attained at the RI basin, and additional scrubbing would occur in the soil column.

B. Alternative B - No Action

This is the No Action alternative required by the National Environmental Policy Act. If this alternative is chosen, the BLM parcel would not be transferred to the City of Irrigon, and the City would not be able to use this site for its proposed treatment plant. The City would have to find a site elsewhere for the facilities, improve its existing facilities, or continue to struggle with the existing situation.

C. Alternative C - Reconfigured Layout #1

This design was created by the City's consulting engineering firm, SCM Consultants, Inc., of Kennewick, Washington (SCM or the consultant), in response to the Bureau's request that it attempt to preserve all or part of two historic road traces that were discovered during field examinations. See Appendix C for the facilities layout in this alternative.

In this design, approximately 2.2 acres at the west end of the parcel would be preserved from development. The BLM would retain that acreage and transfer the remaining 16.85 acres to the City. The major workings of the plant (Biolac basins and appurtenant facilities, lab building, road and parking area) would be re-located to the southeast corner of the parcel. Pipelines and powerlines would be somewhat longer to reach these facilities. The sludge lagoons and first eight RI basins would occupy the northeast and central portions of the parcel. The future RI basins would be constructed just to the west of the first eight.

In all other respects, this alternative is the same as the Proposed Action.

It would allow the City to meet DEQ requirements. The patent would be subject to an MOA. BLM would identify on-the-ground locations of the historic road traces and areas for avoidance of any ground disturbing activities for both short term and long term implementation. The initial and future capacity of the system would be approximately the same. It would leave less room for landscaping.

D. Alternative D - Reconfigured Layout #2

This is a second design created in response to the Bureau's request. See Appendix D.

This design would reserve about five acres from development in the northwest and north central portions of the parcel, which would be retained by BLM. About 14.05 acres would be transferred to the City. As in Alternative C, the workings would be located in the southeast corner. The sludge lagoons and RI basins would occupy the remainder of the east portion and a strip along the south edge.

The capacity of the system when constructed would be the same as the Proposed Action. However, future capacity would be limited to a population of approximately 5540, or about 70% of that of the Proposed Action. The City would still be able to meet its DEQ requirements.

Under this alternative, the City could choose to make its existing wastewater disposal site available for additional RI basins when and if needed. This would enable the future capacity to approach that of the Proposed Action. This would require additional piping, road crossings, and pumps.

Again, the patent would be subject to an MOA. BLM would identify on-the-ground locations of the historic road traces and areas for avoidance of any ground disturbing activities for both short term and long term implementation.

E. Other Alternatives Noted But Not Given Further Consideration

A number of alternatives came to light during the early scoping and research process. These included:

- Transferring the land to the City through the Northeast Oregon Assembled Land Exchange (NOALE) project. The parcel was included in lands to be exchanged in NOALE when that project was being designed. Choosing one of the alternatives would remove it from NOALE. Leaving it in NOALE and transferring it by that means was rejected as being too time consuming and probably delaying the transfer until beyond the time when the City could meet the deadlines imposed on it. It would also require the City to

pay fair market value for the property.

- Selling the land to the City under Section 203 of FLPMA. Because the subject parcel has legal public access, the Bureau might be required to open it up to competitive bidding by the general public, with no guarantee that the City would be the successful bidder. The Proposed Action is the classic type of project envisioned by the R&PP Act, therefore, transfer under that Act is more appropriate.

- Other locations for the treatment plant. There is no other BLM land in the vicinity and any location on non-BLM land would be a No Action from the BLM's viewpoint.

  According to SCM, there is a very narrow corridor of land in this area that is physically suitable for a wastewater treatment plant, and the subject parcel happens to be within that corridor. Potential sites must have appropriate soils and geology, and adequate depth to groundwater. The site must also be carefully chosen so that there are no potable water wells downgradient from the project, per DEQ requirements. This combination of requirements places severe limits on the number of potential locations. For example, land less than a thousand feet to the east of the parcel is not suitable because the soils are too shallow and there is a higher water table. A similar distance to the west, there are problems because there are potable water wells located downgradient from potential sites.

  The City has contacted owners of other suitable land adjoining or near to the subject parcel and has received letters from them indicating their land is not available. Therefore, it appears that there are no other sites within a reasonable distance that are both suitable and available.

- Expanding the existing site and building new facilities there. The City does not own enough property at that site to accommodate additional facilities. The existing facilities must be kept in operation while the new plant is being constructed. Also, groundwater depth becomes less as it approaches the river and may not be enough for the proposed Biolac basins and sludge lagoons, which would be considerably deeper than the shallow RI basins now present on the site.
- Other treatment processes. SCM, in its "City of Irrigon Wastewater Facilities Plan" of May, 1999, considered a number of treatment and disposal alternatives. These included alternatives for secondary treatment, effluent disposal, and sludge management. These were rejected by the consultant for various reasons, such as environmental concerns and exorbitant costs.

- Conveying wastewater to the City of Umatilla's treatment plant. This was rejected by SCM as too expensive, both for the pipelines

to convey the material and for required improvements to Umatilla's plant.

III. Environmental Consequences of the Alternatives

This section will address the anticipated impacts of the four alternatives, considering a "checklist" of resources. The narrative will first go through the checklist and describe the impacts on the resources resulting from the Proposed Action. It will then repeat the process, as applicable, for the No Action and other alternatives.

The sale of the land and the transfer of title to the City would have no physical impact to the land or to any resources, other than the loss to the general public of whatever resources exist on the public land. The subsequent action, that of constructing and using the wastewater plant, would have physical impacts to resources.

The narrative for each resource will first describe the resource on the land, in effect, telling the reader what would be transferred out of Federal ownership, and therefore lost to the general public as a result of the Proposed Action (the "direct" impacts). Then the narrative will describe the anticipated "indirect" impacts on the resource, that is, the physical impacts resulting from the proposed facilities.

Issues raised during scoping and field examinations

In addition to the resource checklist, the following issues will be analyzed in this EA. These issues were identified during preliminary scoping and onsite examinations.

- Odors - This will be included in the Air Quality section.
- View from nearby homes - This will be included in the Visual Resources section.
- Nearby property values - This will be included in the Socio-Economic section.
- Columbia Basin shrub-steppe - This will be included in the Vegetation section.
- Historic road remnants - This will be included in the Cultural/Historic Resources section.

A. Alternative A - The Proposed Action

1. Critical Elements

a. Air Quality

Air quality over the parcel is generally very good. The area has not been a non-attainment area as defined in the Clean Air Act. Although it lies in close proximity to Irrigon, the small size of the town and the lack of industrial activities

have almost no impact on air quality in the area. The major problem with air quality here is probably the odor that the existing wastewater disposal basins frequently emit.

There may be an insignificant effect on air quality at times from traffic on Highway 730, which sometimes is quite heavy, up to 4500 average daily traffic. It may also be affected on occasion from sandstorms, agricultural activities on nearby land which could raise dust, and agricultural burning. The fine sandy soils in this area are highly susceptible to soil blowing. Visibility in the area is occasionally seriously affected by high winds and soil blowing.

Dust would likely be raised during the excavation and construction of the plant, which would affect air quality. This would be only in the immediate area and short-term. As soon as the activity ceases, the air would quickly clear up.

Removal of vegetation would expose soils to the hazard of soil blowing during windy periods, which in turn would affect air quality. As elsewhere in this general area, the soils on the parcel are vulnerable to wind erosion and soil blowing. The proposed seeding measures and/or placing of crushed rock on the unoccupied portions would cause any large scale soil blowing problems to be only a temporary effect. Long-term, soil blowing and resulting air quality effects would be minimal.

- Odors

One concern that naturally arises from the presence of a wastewater treatment plant is the possibility of objectionable odors that would be noticeable to nearby residents and visitors. This concern is perhaps exacerbated here because the existing facility often does have an odor and it is assumed by many that the new one would also, and so the current odor problem would continue and perhaps worsen. It is also a special concern here because two occupied houses are very close to the proposed project, and an adjoining landowner is interested in developing his property for potential homesites.

However, according to SCM, the new plant is designed to greatly reduce the odor problem compared to the existing one. In the existing situation, wastewater goes straight from the septic tanks to the RI basins. All solids escaping the septic tanks remain in the water and this tends to generate odors. In the proposed system, all wastewater and septage goes through a process which pulls out the solids, as

described earlier. Thus, the water going into the RI basins is quite clear and there would be very little potential for any odor from those basins.

The solids that are separated out in the process are routed to the sludge lagoon. This lagoon might seem to be a source of odors but one of the features of this lagoon system is a three-foot water cap on the surface. This tends to prevent odors generated by the sludge from escaping. There would be aerators installed in the lagoon which can be turned on as needed for additional odor control. The aerators would break down odors and keep the material mixed. This would prevent the “turn-over” that can occur in non-aerated lagoons or basins. This is caused by warming temperatures in the spring which can result in the surface water layer to switch places with the lower layer. Sometimes, this switch can be quite dramatic and bring odor producing material to the surface.

Other potential sources of odors are the screening process, the screenings removed during the process, and the septage to be received at the plant. The screening process would take place within a small area and the odor largely confined there. The screenings would be washed during that process and odor producing material removed, returned to the waste stream and sent into the secondary process. The septage would be aerated until it is added to the waste stream. All of these actions would tend to minimize odors or confine them to a small area. If odors do become noticeable and are a problem for nearby residents and visitors, SCM has indicated that a building could be constructed to house the screening and/or septage facilities. This would further reduce the possibility that offensive odors would be a long-term problem.

A wastewater plant with a treatment process similar to the proposed plant is currently in operation at West Richland, Washington. A tour of this plant was conducted on December 16, 1999 by Tetra Tech/KCM, Inc. and attended by the BLM Baker Resource Area Realty Specialist and City of Irrigon personnel. It was noted that there was no noticeable odor outside the plant. The only exception was inside the screens building, where the odor was quite strong and unpleasant. There was no odor just outside the building, even with the door open. There was no odor at the Biolac basin nor at the sludge lagoon. One party familiar with the operation at West Richland commented that sometimes on a hot summer day, there may be some odor drifting a few feet outside the screens building when the

doors are open.

It should be noted here that a major difference between the West Richland plant and the proposed plant at Irrigon is that there are no RI basins at West Richland. Rather, the wastewater runs from the Biolac basin through a disinfectant process and then is piped directly into the Yakima River. Also, the sludge lagoon is relatively shallow and there are no aerators.

On May 27, 1999, a City Councilman from Irrigon visited the West Richland facility and contacted several nearby residents and three employees at the West Richland Golf Club, which is also close by. There were no complaints about odors or any other negative comments about living or working near the facility. One golf club employee stated that the previous wastewater plant at the same location had a bad odor, but the current one does not.

In a telephone conversation with the Director of Golf on February 4, 2000, it was said that odors were not a problem at the club. Perhaps on a very hot summer day there may be some odor on a couple of holes in close proximity, but there had never been any complaints from any golfers.

Based on the above information, it is anticipated that there would be virtually no unpleasant odors resulting from the Proposed Action. Although it is impossible to guarantee that no offensive odors would ever occur, there is normally minimal odor discernible from a close range of a modern wastewater treatment plant. Odors from the existing facilities would be eliminated since use of these facilities would be discontinued and the site reclaimed. Therefore, the overall odor situation would likely be considerably improved from the present. It should also be pointed out that the areas of the plant most likely to produce odor would be located in the southwest corner, the farthest possible distance from the nearest homes and the area that might be developed for homesites.

b. Areas of Critical Environmental Concern

There are no Areas of Critical Environmental Concern, therefore, there would be no effect.

c. Cultural/Historic Resources

Historic records and archaeological data show that the

Columbia River shore in the Irrigon vicinity was intensively occupied by local tribes inhabiting numerous fishing camps. The Irrigon area was on the Columbia River route of the Lewis and Clark Expedition and an early Oregon Trail route that paralleled the Columbia River. However, the original shoreline of the Columbia is now beneath the John Day Reservoir. The BLM parcel is located approximately 1/4 mile south of the original Columbia River shore.

A Class III intensive cultural resource inventory of the entire parcel was conducted. Inventory resulted in the documentation of two historic road traces, and sparse evidence for an early 20th century failed homestead consisting of a shallow historic debris scatter, non-native locust trees and eroded irrigation features. The historic homestead features and debris scatter are considered not eligible for the National Register of Historic Places. The historic road traces were evaluated in consultation with the Oregon SHPO and were determined to be eligible for nomination to the National Register (LeCompte and Oman 2000).

No Native American archaeological sites or artifacts were found during field examinations, which included repeated intensive survey by the BLM, and excavation of 33 shovel test probes by CTUIR archaeologists to sample subsurface deposits up to a depth of 1.8 meters along dune ridges (Sloan 2000). The Confederated Tribes of the Umatilla were consulted about the City of Irrigon proposed project, and two tours for tribal representatives were conducted.

- Historic Road Remnants

Remnants of the two historic roads mentioned above were discovered during field examinations. Both segments are depressions crossing a low sand ridge and run in a southeast to northwest direction. The traces now visible are located in the west half of the parcel. The east road trace is about 442 feet in length with a 99 foot fork. This road previously ran southeast across the entire parcel, but part of the road was likely disturbed by a homesteading attempt in the early part of the 20th century. The western road trace is 715 feet in length, varying in depth and visibility. Approximate routes of the two road traces are shown on the Vicinity Map on Page 2 of Appendix A, and the conceptual Facilities Layouts in Appendices B, C, and D.

The roads are considered remnants of what was historically a continuous wagon road between the Umatilla River and the Upper Columbia River emigrant route. This road was an alternate of the Oregon Trail used by travelers from 1844

or 1845 to 1851. Part of the Umatilla trail route was mapped in 1861, and experienced a brief resurgence in use for travel and freighting during the early 1860's gold rush to the region.

Oriented northwest, this route probably connected the Oregon Trail from the Umatilla River near Echo, Oregon, to the early emigrant trail which paralleled the Columbia River. Emigrant use of the route declined in 1848 through 1851 when the primary route of the Oregon Trail taken by most travelers was located across uplands well to the south.

Today, about 1.6 miles of short, noncontiguous rut traces remain along the Umatilla trail route on federal land between the Umatilla River and Columbia River. Part of the route is located across undeveloped land at the northern boundary of the Umatilla Chemical Depot withdrawal, where the setting is relatively intact. A short segment is located north of Highway 730, on Army Corps of Engineers land in the Irrigon Wildlife area. Road traces on the BLM parcel probably represent 13 percent of the total remaining physical traces of the Umatilla trail.

In a letter to the BLM, the Oregon Historic Trails Advisory Council stated the Umatilla trail is a part of the Upper Columbia River route, which is a branch of the Oregon Trail recognized for its value and significance under ORS 358.057, and in the 1998 Oregon Historic Trails Report, and recommended for further study and possible inclusion as part of the Oregon National Historic Trail (Jim Renner 12/22/2000).

The rut traces meet eligibility criteria for inclusion on the National Register based on significant association with historic events. The primary contributing factors are the rut traces and the immediate setting on treeless, desert landscape. Integrity of the historic appearance of the site has been severely impacted by development of surrounding properties, by disappearance of connecting rut traces, and by obstruction of the view of the Columbia River.

The Proposed Action would result in an adverse effect to this National Register eligible resource. Initial facility construction would avoid disturbance of the easterly road which would be preserved for the short term (about 15-20 years). However, the planned future expansion and construction of the future Biolac basin and additional RI basins would destroy nearly all of this road in the long term (greater than 15-20 years). It would eventually obliterate all but perhaps 50-75 feet of the eastern road and about 480

feet of the westerly road.

The south part of the westerly road (236 feet) would be disturbed by the construction of the first sludge lagoon, access road, pipelines, and other work. This portion of the road is presently less visible because it is only 3-5 inches in depth. The more visible northern part of this road (about 479 feet) would be left undisturbed, as the proposed layout of the facilities indicates no expansion is planned into the far central-west and northwest areas of the parcel, on about 1.2 acres where this road is located.

The setting of both road segments would be altered by the presence of the modern facilities and there would be an entire change of character of the 19-acre property use and physical features, leaving 1.2 acres of the setting undeveloped. There would be an introduction of visual, atmospheric and audible elements which are not part of the setting contributing to its historic significance. The planned chain link fence would bar public access and inspection of the historic ruts.

Full facility expansion over the long term would disturb about 57% of the total visible road features presently on the BLM parcel (including almost all of the eastern road). About 1.2 acres of setting and 43% of the historic resource would remain.

A more complete description of the road traces, their setting, the impacts of the various alternatives, and potential mitigation measures are contained in two reports located in the case file, titled “Umatilla Trail at Irrigon Historic Resource Assessment” and “R&PP Application - Irrigon, Wastewater Treatment Facility Evaluation of Alternatives and Effects on Cultural Resources, Proposed Mitigations”.

See also the list of potential mitigation measures in the Mitigation Measures section beginning on Page 43.

d. Drinking/Groundwater Quality

The City has been monitoring groundwater in several monitoring wells in the vicinity of its existing infiltration beds, which lie immediately to the northwest of the northwest corner of the subject parcel. The groundwater lies at a depth of about 20 feet. The data collected shows that groundwater in the vicinity flows from southeast to northwest. Upgradient and through the parcel the hydraulic gradient ranges from .3% to .4%. After passing beneath the parcel and as it approaches the Columbia River, the gradient flattens out to .04% to .06%. This flatter gradient is

attributed to the influence of the water level in the river.

There are no drinking water wells to the northwest of the proposed site, therefore, no drinking water sources would be affected. It is very unlikely any potable water wells will ever be developed in that area, since the land is owned by the Corps of Engineers. The site was chosen, in part, because of that reason.

The monitoring wells also indicate that the quality of the groundwater in the vicinity is poor. The major constituent of concern is the presence of nitrogen in the form of nitrates. The nitrate level in the upgradient well, south of the existing infiltration beds, has averaged 43.7 mg/l. This well is adjacent to irrigated cropland and the nitrate levels are likely influenced by agricultural chemicals entering the groundwater. Nitrate levels in the downgradient well average 21.5 mg/l. Nitrate levels immediately below the infiltration beds have increased since the current plant went into operation, however, the levels are still well below the background level in the upgradient well. This lower level may indicate that the nitrate level decreases with distance from the agricultural land and/or that the groundwater here is diluted by water from the Columbia.

Other constituents monitored include biochemical oxygen demand (BOD), total suspended solids (TSS), and fecal coliform. Testing of the monitoring wells downgradient of the existing beds show there has been no increase of these constituents in the groundwater since the current facility went into operation.

The proposed facility would be superior to the current facility in its ability to remove nitrates and other pollutants from the wastewater. That is because currently, the septic tank outflow is piped to the RI basins and it then is discharged to the groundwater without any additional treatment. In the proposed system, secondary treatment would be accomplished in the Biolac aeration basin as previously described in the Proposed Action above.

Current influent BOD values from the existing septic tanks are approximately 100 mg/l. The proposed secondary treatment removes about 90% of incoming BOD value which then becomes the food source for the removal of nitrates from the wastewater. This means that, if all the existing septic tanks were left in place, the treatment would remove 90 mg/l of BOD value. 90 mg/l BOD is capable of removing about 30 mg/l of nitrates. The incoming nitrate

value would be 50 mg/l, therefore removing 30 mg/l of nitrates would bring it down to the 20 mg/l level. The process is sensitive to variations in concentration and temperature, but a year-round nitrate level of 25 mg/l is a reasonable expectation if all septic tanks were to continue in use. This is well below the current background level of 43.7 mg/l in the groundwater, however, it is still well above the desirable nitrate level of 7 mg/l as specified by DEQ.

The need to achieve that level of 7 mg/l is the reason for the proposed "hybrid" wastewater flow, that is, converting some of the existing septic tanks to conventional sewer systems, resulting in a mixture of septic tank effluent and sewage. This combined wastewater would have a higher BOD value and provide a greater food source for removing nitrates (the incoming nitrate value would not change). This system would achieve a final nitrate value in the effluent of 14 mg/l soon after start-up. It is projected that the 7 mg/l level would be reached in about 20 years, based on a growth rate in Irrigon of 5% and 90% of future waste connections being to the conventional sewer system. If the growth rate is less, it would take longer to reach the desired level, nevertheless, the nitrate levels in the wastewater entering the groundwater would be considerably less than the current background levels.

Additional BOD, TSS, and nitrate would be removed from the effluent as it passes through 20 feet of soil to the water table. For suspended solids and bacteria, including coliform organisms, the removal is virtually 100%. It is known that rapid infiltration basins provide a barrier through which pathogens do not migrate. Percolation through five feet of soil media is adequate to disinfect the effluent. Nitrate reduction is more difficult to attain during vertical migration of the effluent through the soil column.

Based on the above information, it is anticipated that there would be no adverse impact on groundwater quality resulting from the Proposed Action. There would likely be some beneficial results in overall quality in the vicinity because the water percolating from the RI basins and entering the groundwater would be of higher quality than existing groundwater. Additionally, the Biolac basins and sludge lagoons would have impervious liners, which would prevent leachate from reaching groundwater from those facilities.

e. Environmental Justice

No high and adverse human health or environmental impacts on minority populations, low-income populations, or

Indian tribes are expected to result from the Proposed Action. Members of these groups residing in Irrigon would receive some benefit by having an adequate and dependable wastewater disposal system that is acceptable from an environmental and human health standpoint. The Proposed Action would tend to keep monthly user fees at a reasonable level, in comparison to some of the alternatives not further considered.

f. Prime/Unique Farmlands

Although the soil map units on the parcel are capable of irrigated agriculture, they do not meet the criteria for prime or unique farmlands. No soils in the immediate area meet the criteria. There would be no impact from the Proposed Action.

g. Floodplains

The parcel is within an area designated “Zone C” by the Federal Emergency Management Agency. This means that it lies above any floodplain and has only a minimal possibility of flooding. Therefore, there would be no impact.

h. Threatened & Endangered Animals

No threatened or endangered animal species were identified that inhabit the parcel or would be affected by the Proposed Action.

One species that was considered is the listed Washington ground squirrel. However, the soils in the area are deemed to be too sandy to provide suitable habitat for this species, as burrows would tend to collapse.

Another species considered is the bald eagle. Biologists from Shannon and Wilson, Inc., a geotechnical and environmental consulting firm, included the eagle in the Biological Assessment prepared for this project (see under Threatened and Endangered Fish). Bald eagles do not nest near the project area, but roost and forage in the general vicinity. The subject site is over one mile from the Umatilla Wildlife Refuge, where eagles are known to roost during the winter.

The potential for adverse impacts to bald eagles is negligible. The biologists reached a determination that the

proposed project has “no effect” on bald eagles.

i. Threatened & Endangered Fish

A Biological Assessment (BA) was prepared by biologists from Shannon & Wilson, Inc. to determine potential effects of the proposed project on fish species listed as threatened or endangered under the Endangered Species Act. According to the BA, the National Marine Fisheries Service (NMFS) has designated the Columbia River near Irrigon as critical habitat for the following listed species: Snake River sockeye salmon, Snake River fall chinook salmon, Snake River spring/summer chinook salmon**,** Snake River steelhead, Middle Columbia River steelhead, Upper Columbia River steelhead, and Upper Columbia River spring chinook salmon.

These species use the river near the project only as a migration corridor to reach spawning beds. Juveniles also use the Columbia as a route to the sea. No adults or juveniles of any of these species spend significant time in the area.

The biologists concluded that the project would likely improve water quality over the existing conditions, and reached a determination of “may affect but not likely to adversely affect” for all listed species. The BLM has reviewed the BA, concurred with its determination of effects, and submitted it to NMFS asking for their concurrence. A letter of concurrence from NMFS is anticipated prior to the Decision Record.

A copy of the BA is in the case file.

j. Threatened & Endangered Plants

A botanical inventory and evaluation was done a few years ago for the Northeast Oregon Assembled Land Exchange project. That inventory did not include the portion withdrawn by COE. A second inventory was made of the entire parcel on April 19, 2000. No special status plant species were found in either inventory. The proposed action is unlikely to affect any such species.

k. Tribal Concerns & Treaty Rights

The subject parcel lies within the ceded lands of the Confederated Tribes of the Umatilla Indian Reservation (CTUIR), lands that were ceded to the United States in the Treaty of 1855. The Tribes reserved certain rights under the terms of the Treaty, including the right to take fish at

their usual and accustomed places, and the privilege of hunting, plant gathering, and stock grazing on unclaimed federal lands within the treaty area. Traditional fishing villages were once located along the Columbia River in the vicinity of Irrigon.

The Confederated Tribes of the Umatilla Indian Reservation inquired about the effect of the proposed action on their treaty rights. Since there are no fishing opportunities or fishing site access provided by the parcel, and there would be no adverse effect on fish in the nearby Columbia River, there is no impact on fishing rights. Because the land would be transferred out of Federal ownership in the Proposed Action, any other rights and privileges would be lost.

Due to the small size of the parcel and developed character of surrounding land, game habitat on the parcel is extremely limited. Game habitat is located north of Highway 730 on adjacent federal lands in the Irrigon Wildlife Area. Disposal of the BLM parcel would have no effect on tribal access to the adjacent wildlife area. No cultural plant communities or traditional plant gathering localities are known to exist on the parcel. See the list of plant species, Appendix E.

At present, there is no livestock grazing lease on the BLM land. There are an estimated three animal unit months (AUMs) of livestock forage on the 19 acre parcel, but no stock water or water source. Under current conditions, there is negligible opportunity for stock grazing. Transfer of the property to the City of Irrigon for development of a wastewater treatment plant would eliminate the opportunity for CTUIR to exercise treaty grazing on the subject lands.

l. Solid/Hazardous Waste

The property and appropriate records were examined in accordance with Section 120 (h) of the Comprehensive Environmental Response, Compensation and Liability Act. No evidence was found to indicate any hazardous substance was released, disposed, or stored for one year or more on the property.

An Initial Assessment Report was prepared to identify any Recognized Environmental Conditions affecting the parcel. None were identified.

One very old and very small trash heap was found. Nothing hazardous was indicated.

The City of Irrigon sewer system presently does not serve any industrial, hazardous, or toxic waste connections. All

connections are residential or commercial.

m. Wetlands/Riparian

There are no wetland or riparian areas on the parcel.

Some areas of wetland lie to the north of the parcel, between Highway 730 and the Columbia River. The sandy soils, lay of the land, and the presence of Highway 730 all tend to discourage overland flow of water across or from the parcel and from reaching this wetland area. This would not change after the proposed facilities are constructed and put into operation.

As described earlier, no adverse effects to groundwater would be anticipated.

In light of this information, no impacts to any wetland or riparian areas in the vicinity of the parcel are expected.

n. Wild & Scenic Rivers

No Wild & Scenic Rivers are in the area and there would be no effect.

o. Wilderness Areas

There are no Wilderness Areas nearby and there would be no effect.

2. Other Environmental Components

a. Vegetation

The vegetation type on the parcel primarily is shrub-annual grassland. The dominant shrub species is gray rabbitbrush. Other shrub species present include green rabbitbrush, bitterbrush, buckwheat, and sand sage. There are also numerous black locust trees in the south central and southeast portions of the parcel. These appear to have been planted.

The major understory species is cheatgrass. There are also several good stands of needle-and-thread grass scattered through the parcel. Other species present include Sandberg's bluegrass, sand dropseed, yarrow, balsamroot, phlox, and daisy. See Appendix E for a more complete list of species.

It is anticipated that the existing vegetation would be virtually

eliminated by the site grading, except for vegetation located on about 1.2 acres at the far west end. The excavation for the various basins and other facilities would remove any vegetation that might remain on those sites, and any remaining vegetation adjacent to these facilities would be seriously disturbed.

The portions of the site not occupied by the various facilities (e.g., between the RI basins) may be reseeded to native grass. If so, some of the vegetation would be restored. However, the composition would be different than it is now.

- Columbia Basin Shrub-Steppe

This parcel has been identified as being within the Columbia Basin shrub-steppe vegetative type. This type once covered vast areas of Umatilla and Morrow counties, as well as sizeable parts of Washington state. Over the years, much of the steppe has been converted to agricultural production or to urban and residential use. As a result, relatively little Columbia Basin shrub-steppe remains.

The Columbia Basin shrub-steppe is characterized by level to moderately level rangelands with very sandy soils. Vegetation is largely a scattered overstory of basin big sagebrush and a grass component of bluebunch wheatgrass, Idaho fescue, and needle-and-thread grass. It differs from other sagebrush steppes in Eastern Oregon in its sandy soils and large percentage of needle-and-thread.

Although the parcel is within the historic area of this vegetative type, it is in poor condition as evidenced by the presence of gray rabbitbrush instead of sagebrush, and the large component of cheatgrass. It does not represent true Columbia Basin shrub-steppe vegetation. There are sizeable areas nearby of much better condition Columbia Basin shrub-steppe communities on the Umatilla Army Depot and the Boardman Bombing Range.

The loss of this 19 acres of Columbia Basin shrub-steppe vegetation is not considered significant due to its small size, poor condition, and the nearby presence of much better condition and larger areas.

b. Soils

There are two soil map units on the parcel. Burbank loamy fine sand occupies most of the parcel, and Quincy fine sand is found along the north edge.

Both soils are very deep and excessively drained, have rapid

permeability, and slow runoff. The hazard of water erosion is slight and the hazard of soil blowing is high. The effective rooting depth of the Quincy soil is greater than 60 inches, but is restricted in the Burbank soil to 20 to 40 inches by an underlying gravel layer. Both soils are suitable for irrigated cropland.

Soils would be disturbed and dislocated during excavation and construction activities. Soil would be removed for the excavation of the various basins and lagoons. The soil would be stockpiled and used for berm material around the basins. Other soil adjacent to the excavated sites would be disturbed and compacted by heavy equipment during these activities.

Removal of vegetation would expose these soils to the hazard of soil blowing during windy conditions for a time. The planned reseeding measures and/or placement of gravel on unoccupied portions of the parcel would keep this to a minimum for the long term.

c. Water Resources/Hydrology

There are no surface water resources on the property. The lack of overland flow from or across the parcel means there would be no effect on nearby water resources from any proposed activities on this parcel as a result of surface runoff.

The possible effects on the Columbia River must be considered here, because of its proximity and the direction of the groundwater flow toward the river. As explained earlier under Drinking/Groundwater Quality, the proposed project would actually have something of a mitigating effect on the high background nitrate levels in the groundwater, because the water percolating from the RI Basins would have a lower nitrate level. This would tend to dilute the nitrate levels and lower the concentration. Therefore, groundwater entering and mixing with the Columbia River water from this area would have a lower nitrate concentration than otherwise. In a body of water the size of the Columbia, this effect might not be measureable.

d. Wildlife Habitat

Wildlife habitat on the parcel is minimal and limited to a few rangeland songbirds and small mammals. Mourning dove, western meadowlark, brown-headed cowbird, eastern kingbird and western kingbird are species that were observed during field visits.

The wildlife habitat onsite would be destroyed. It is presumed that, eventually, virtually all of the parcel, except for some of the far west end, would be excavated for the basins and other facilities.

A small grove of large trees is located across Oregon Lane from the southwest corner of the parcel, at the entrance to the cemetery. These trees provide habitat for a number of bird species, and would not be disturbed by the proposed project.

The presence of people, equipment, and noise during excavation and construction may frighten some species away on adjoining land for a time. Once the construction is completed and the project is operating, human activity would usually be much less and wildlife activity would return to normal. There is already a great deal of noise and human presence in the area. Traffic on the highway and roads, farming activities, and tending the cemetery all contribute to this and wildlife are accustomed to it.

The aerial powerline that may run a short distance to the site could pose a threat to birds of prey since powerlines have been known to kill large birds whose wings come into contact with high voltage lines. However, power companies now typically design their pole and wire configurations to minimize this possibility. There are already many electrical lines in the area, many of which presumably do not have modern configurations. This line would be an insignificant addition.

Waterfowl have been observed on lagoons at similar type operations in the area. Presumably, they may use this site as well.

e. Fisheries

Biologists from Shannon & Wilson, Inc. concluded that water quality would likely improve as a result of the project. There would be no adverse impact on any fish species in the nearby Columbia River.

Refer also to the Threatened and Endangered Fish section.

f. Livestock Forage/Management/Improvements

The parcel is not leased for grazing. There is some evidence of some horse use, perhaps a few years old. It

does not appear to have been recently used by any class of livestock. Range condition over most of the allotment is poor, with a few small good areas. There are an estimated three AUMs of livestock forage.

A poor condition 2-strand barb-wire fence runs along the south and west edges of the parcel, along the county roads. It is nearly or completely down in a few places and is not capable of turning stock. A good 4-wire fence runs about 50 feet inside the north edge, parallel to the north edge and the Highway 730 right-of-way.

A good 5-wire fence runs along much of the east edge, between the parcel and an adjoining irrigated horse pasture. It appears to be offset about 40 feet onto the BLM parcel.

The COE withdrawal area in the northeast corner is fenced separately from the rest of the parcel. However, there is no fence along the east portion of that withdrawn area.

Since the parcel is not leased for grazing, no current grazing use would be affected by the Proposed Action. It would preclude the possibility of leasing the site in the future.

The existing barb wire fences would probably be removed and replaced by the proposed chain link fence around the perimeter of the site.

g. Recreation Resources

Recreational use, if any, is minimal and casual. There is some evidence of use by 4-wheeled Off Highway Vehicles.

Any recreational potential would be eliminated by the Proposed Action.

h. Visual Resources

The visual resource management (VRM) classification for this area is Class IV. The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

The project would be very visible for a brief moment to travelers on Highway 730 as they pass by. The project is consistent with the VRM classification for the area. It appears to be consistent with other land uses in the area and existing structures. The generally low profile of the project above ground level would be in harmony with the surrounding landscape profile.

Use of the existing infiltration basins would discontinue and the site would be reclaimed. The reclaimed site would probably be more visually pleasing than the existing basins with their murky water.

- View From Nearby Homes

An issue that has been raised is the view of the facility from nearby homes. There are four occupied homes within ¼ mile of the proposed site and all could have a view of the proposed facilities, to one degree or another. Plus, an area adjoining the parcel on the east may be developed for homesites.

One component of the Proposed Action is the planting of trees and some landscaping to give it a pleasing appearance. Although the trees may partially obscure the plant, it is presumed that it would still be largely visible and recognizable as a wastewater treatment plant.

The plant would not be an intrusion into an otherwise pristine area, since there are many other visible indications of man's presence and activities in the vicinity. The generally low profile of the facilities would not block any views of the surrounding landscape. Still, some may find the view objectionable. This could be due to the fact that the plant would obviously be for the treatment of sewage and the unpleasantness associated with such an operation.

i. Mineral Resources

The subject parcel was included in the Mineral Potential Report prepared by the BLM Prineville District geologist for the Northeast Oregon Assembled Land Exchange, approved July 15, 1998. The report indicated a low potential for most mineral resources, including coal, geothermal, sodium/potassium, uranium/thorium, metals and non-metals. The parcel has been classified as prospectively valuable for oil and gas, and has a high potential for common varieties of sand and gravel.

The proposed action would effectively prohibit any

development of mineral resources.

j. Noxious Weeds

Diffuse knapweed is present on the parcel. It appears to be mostly along a trace of a road running through the parcel. As far as is known, no attempts at control of this weed have been made on this site. This weed species is common in the general area.

Since it is anticipated that most of the vegetation would be removed on the parcel, the weed may be eliminated on this site. It is possible that the weed may be spread if excess spoils are transported off-site. It is also possible that the weed may spread and infest areas within the parcel that are intermingled with the various facilities. Some control may be necessary in the future.

k. Paleontology

There are no known resources on this parcel and there would be no effect.

l. Land Uses/Rights-of-Way/Facilities

A number of right-of-way type facilities exist along the edges of the parcel. An electric powerline and buried telephone line run just inside the north edge. A TV cable is also attached to the powerline poles. An irrigation water pipeline runs to just inside the southeast corner and dead ends. This was probably installed in anticipation that the parcel might be eventually transferred into private ownership and irrigated.

County roads run along the west and south edges. Both roads have FLPMA rights-of-way, half of which are presumed to be on the parcel. Highway 730 runs just off the parcel to the north. A natural gas pipeline runs approximately along the north edge.

A faint primitive road trace runs through the parcel from the southwest corner and through a gate at the east end. There is no right-of-way for this road. A portion of the fence along the east edge is offset about 40 feet onto BLM, enclosing about .3 acre with the adjoining private land. This portion is in irrigated pasture.

Transfer of ownership would be subject to all valid existing

rights. Authorized facilities would not be affected. The road through the parcel would be destroyed. The fence at the east edge would probably eventually be relocated on the property line, or replaced by the proposed chain link fence.

Refer to Tribal Concerns and Treaty Rights for information on treaty rights that exist on the parcel.

m. Access

Legal and physical access to the parcel is presently provided by Highway 730 and the county roads. After the Proposed Action is implemented, access would be denied to the general public. A chain link fence would be built around the perimeter of the site, and the gate would be locked when city personnel are not present.

n. Socio-Economics

Implementation of the Proposed Action would provide adequate and dependable wastewater treatment facilities for Irrigon. It would permit the town to continue to grow and be an economically and socially viable place to live. Modern wastewater treatment and disposal facilities that are acceptable from an environmental and human health standpoint are important for a town to maintain its livability, protect property values, and attract tourists and prospective new residents.

Implementation would also cause the City to be in compliance with current regulations (Clean Water Act) and to meet the requirements of DEQ. The treatment process described in the Proposed Action has been determined to be the most cost efficient method to do that, when compared to those alternatives rejected by the consultant. A bond measure that would partially fund the project received local voters' approval by a 65%-35% margin.

- Nearby Property Values

The concern has arisen that market values of adjoining and nearby land would be damaged. Common sense tells one that any potential home buyer near such a plant would seriously consider the effects. The presumption is that nobody wants to live or own property next to a sewage plant, so current owners would find it difficult to sell their property and could do so only at a considerably reduced price.

Contact with county appraisers in the area indicate that this

is not necessarily so. The Morrow County appraiser said that there did not appear to be an effect on properties close to Irrigon's existing wastewater facilities. These facilities are not as visible as the proposed plant would be, but they smell much worse than the new plant with current technology would. The Benton County, Washington, appraiser indicated there had been no impact to the value of lots near the West Richland plant. The Umatilla County appraiser stated they had been unable to detect any definite decreases in values near either the City of Umatilla or Stanfield plants. The Walla Walla County appraiser said there was no effect on agricultural land, but there may be some effect on homes or potential subdivisions.

It is impossible to predict with certainty the effect on property values in a specific situation. However, in view of the above, it is anticipated that any effect on property values would be short term. Assuming the plant, as expected, produces no noticeable odor, it appears reasonable to anticipate that there would be no long-lasting effects on property values. If any impact does occur, it would more likely be to existing and potential homesites than to agricultural land.

3. Cumulative Impacts

Cumulative impacts are the combination of effects of past, present, and reasonably foreseeable future activities on the subject parcel and where they may exacerbate or add incrementally to the effects from activities on nearby areas.

No cumulative impacts have been identified for most resources. Those that have been identified are discussed below.

a. Air Quality

The short term effect on air quality caused by raising dust and exposing soils to the hazard of soil blowing would be added to similar effects nearby. Soils in the entire area are very sandy and susceptible to blowing. The large scale farm work and other activities in the vicinity can result in increased dust and effects on air quality.

b. Cultural/Historic Resources

Destruction of the historic road segments would add incrementally to the segments of this road that have previously been destroyed. Changes in the Columbia River shoreline, large-scale agricultural development and other activities have obliterated much of this road. Although the Proposed Action would affect a small percentage of the overall route, the removal of highly visible traces in the

vicinity of the Columbia River would impair the capability of the historic site on BLM land to convey a sense of connection to emigrant travel routes and experience.

c.. Drinking/Groundwater Quality

The nitrates and other substances entering the groundwater from the RI basins would be added to whatever amount of nitrates are the result of agricultural activities upgradient. However, the target nitrate level is in the acceptable range and much lower than the background level. It appears the water from the RI basins would have a mitigating effect on the current high level of nitrates.

d. Vegetation

The loss of Columbia Basin shrub-steppe vegetation on this parcel would add incrementally to the loss of this vegetation that has already occurred in the area. As pointed out earlier, the small size and poor condition of the parcel renders this loss insignificant.

e. Water Resources/Hydrology

Cumulative effects on water quality in the Columbia would relate to the incremental addition to other actions affecting the river, which are numerous and beyond the scope of this document. The impact of the Proposed Action is an insignificant addition to this mix.

f. Wildlife Habitat

The loss of habitat on this parcel would be a negligible addition to the loss of native habitat that has occurred in the area.

g. Visual Resources

The presence of the proposed facility would add to the list of already numerous man-made facilities that are visible in the vicinity.

B. Alternative B - No Action

If this alternative is chosen, the subject parcel would be retained in Federal ownership and the proposed wastewater plant would not be constructed. There would not be a loss to the general public of the resources that exist on the parcel. There would be no physical impact to

the resources on the parcel. Any physical impacts would occur off-site as a result of the City's continued use of the existing facilities. It is assumed here that choosing "No Action" would force the City to continue to use the existing facilities for some time, though an alternative site would eventually be found.

1. Critical Elements

There would be no physical effects to the following critical elements: Areas of Critical Environmental Concern, Prime/Unique Farmlands, Floodplains, Threatened & Endangered Animals, Threatened & Endangered Fish, Threatened & Endangered Plants, Tribal Concerns & Treaty Rights, Solid/Hazardous Wastes, Wetlands/Riparian Areas, Wild & Scenic Rivers, or Wilderness Areas.

The following critical elements may be impacted or otherwise merit additional comments.

a. Air Quality

The existing infiltration beds would continue to be in use for a longer period of time and continue to frequently emit unpleasant odors. It is presumed that eventually the City would eventually construct new facilities at another location and the current odor problem would disappear.

b. Cultural/Historic Resources

All historic road segments, including 715 feet of the western road and about 540 feet of the eastern road, along with the immediate setting on 19 acres, would be left intact. Retaining the property would preserve an important emigrant-era historic resource for public heritage understanding and appreciation. Administrative or physical measures, such as repair of property boundary fences, could be considered to protect the existing rut traces and historic setting.

The location of the site immediately adjacent to a heavily used highway and its accessability could cause the ruts to be vulnerable to damage from incidental recreational use. Casual visits to view the ruts and resulting impacts could be slightly greater now than in the past. This project has caused the local public to become aware of the existence of the ruts, whereas previously they were apparently largely unknown.

BLM has no immediate plans to develop the site, however, there is the possibility that the site could be developed as a recreational or interpretive site by BLM or a cooperating

entity. Such a development would preserve the historic features and encourage public visitation and heritage tourism and education.

c. Drinking/Groundwater Quality

Relatively high nitrate levels would continue to enter the groundwater from the existing basins for a period of time until new facilities are brought on line elsewhere.

d. Environmental Justice

These impacts would relate to the effect on Irrigon as a result of the inability to provide new wastewater treatment and disposal facilities for a period of time. If the livability and/or economy of the town is affected, any minority, low-income, and Indian populations living in the town would suffer adverse impacts along with everybody else.

2. Other Environmental Components

There would be no impact to most components. Those that might be affected are described below.

a. Water Resources/Hydrology

Since the existing infiltration basins would continue in use for a time, any adverse impacts on water quality in the Columbia (presumed to be negligible) that result from wastewater percolating to the water table from these basins would continue.

b. Recreational Resources

Now that the existence of the historic road traces is known, there could be an increase in recreational visits to the site by the public, including history buffs and curiosity seekers. Levels of potential increased use are unknown.

As stated earlier under Cultural/Historic Resources, this alternative leaves open the possibility of promoting heritage tourism, focusing on the road traces.

c. Socio-Economic

Under the No Action alternative, the economic impact to the City of Irrigon would be quite severe. The City would quickly reach the limit of its permitted new hookups to its sewage system. This would essentially shut down any continued growth of the town. As a result it is likely that its economy

would stagnate, business and tourism would suffer, and property values may be damaged. General livability may also be adversely impacted.

The City does not have the option of not constructing an approved wastewater treatment facility. It must be done, regardless of method or cost. Construction of an approved facility is mandated by DEQ and the Clean Water Act and further regulated by the Mutual Agreement and Order issued by the State of Oregon. Under the No Action Alternative, the City would have to resubmit a proposed project plan in some other location to DEQ for review and concurrence. Another approved Wastewater Facility Plan would have to be negotiated between the City and DEQ. Another engineering study, costing approximately $100,000, may be needed, and funding may be jeopardized.

Additionally, the City faces potential fines by DEQ if it does not meet certain deadlines. These fines would be $250 for each day of each violation of the compliance schedule and $500 for each violation of any interim monthly or quarterly limitation. Potential annual fines could exceed $93,000. The No Action Alternative would delay the implementation of whatever facility the City is eventually able to construct, and almost certainly cause it to be subject to these fines.

Other economic impacts could include the increased cost of the project resulting from delays, acquisition of other property to site the plant, legal costs, increased interest charges, loss of state and federal funding, loss of tax revenue to the City from property devaluation, costs and/or loss of revenue associated with a building moratorium and the resulting loss of growth opportunity, and lost revenue for municipal operations unrelated to the wastewater system. Also, there is the possibility that owners of vacant land within the city, finding that their property is not developable, may simply walk away and quit paying taxes, resulting in unintended ownership of such land by the City. Local officials fear that significant growth in the area (Boardman and Hermiston) is already passing Irrigon by due to current and potential restrictions.

3. Cumulative Impacts

No cumulative impacts have been identified that would result from the No Action alternative.

C. Alternative C - Reconfigured Layout #1

Under this alternative, about 2.2 acres of the parcel would be retained in Federal ownership and the remaining 16.85 acres would be transferred to

the City. Therefore, the resources being transferred out of Federal ownership would, to that extent, be less than under the Proposed Action.

Differences in physical impacts to resources, as compared to the Proposed Action, are as follows:

1. Critical Elements

   a. Air Quality

      The production of unpleasant odors, if any, would be the same as in the Proposed Action. However, since the workings of the plant most likely to produce odors would be located in the southeast corner of the parcel and much closer to the two nearest homes, any odors produced would be much more likely to be noticeable to the residents.

   b. Cultural/Historic Resources

      In the short term, initial facility construction would avoid most of the historic road traces on about 5.2 acres. BLM would identify the locations for avoidance of any ground disturbing activities. About 180 feet of the eastern trace would be disturbed. However, if the facility expands in the long term only the northern, most visible segment of the western road trace would be preserved (about 500 feet), buffered by approximately 2.2 acres of the immediate setting which would be undeveloped. Under this alternative, therefore, although the short term effect to the historic resource would be less, the long term effect would be similar to that of the Proposed Action. Evidence of the eastern road trace would be obliterated, as in the Proposed Action. The integrity of the physical setting of the property that contributes to its historic significance on 16.85 acres would be largely diminished by ground disturbance and the addition of incompatible visual, atmospheric, and audible elements in a manner similar to the Proposed Action.

      Full facility expansion over the long term would disturb about 61% of the total visible road features, including all of the eastern road trace, on the BLM parcel. Approximately 2.2 acres of setting and 39% of the historic resource on the parcel would be retained.

      This alternative also creates the opportunity for development of a small park or interpretive site for heritage tourism and education, focusing on the remaining road segment on 2.2 acres. Such a development would also alter the character of the property and would lead to public visitation.

2. Other Environmental Components

Vegetation, soils, and wildlife would be impacted in the same way as under the Proposed Action, except to a somewhat lesser degree because of the larger area that would be left undisturbed at the west end. Other differences in impacts would be as follows:

a. Recreational Resources

Since the western road trace would be left largely intact, there could be some casual recreational visits by those interested the history of immigrant travel. This would likely increase if a park or interpretive site is developed, although the level of increase is not known.

b. Visual Resources

The view of the facility from two nearby homes would be different from that of the Proposed Action. This is because, under this alternative, the major workings of the plant would be located in the southeast corner of the parcel, much closer to these two homes than under the Proposed Action. The homes would have a closer-up view of these facilities, along with the traffic in and out of the site, and the resulting noise. Also, under this alternative, there would be less room for landscaping and, possibly, less opportunity to screen the view of the facilities with trees and shrubs. Therefore, the impact on the viewshed from these homes would be greater than under the Proposed Action.

c. Access

The public would have access to about 2.2 acres at the far west end of the parcel, where the preserved portion of the westerly wagon road would be located.

d. Socio-Economics

Effects on nearby property values could be somewhat more, as compared to the Proposed Action. This is due to the fact the major workings of the plant would be closer to the two occupied homes and the potential homesite development mentioned earlier and possibly cause them to be less desirable locations.

The effects on the City would be virtually the same as in the Proposed Action. The City would be able to meet DEQ requirements. Initial and future capacity of the system would be the same.

3. Cumulative Impacts

No cumulative impacts have been identified that would differ from

those discussed for Alternative A.

D. Alternative D - Reconfigured Layout #2

In this alternative, about five acres in the west end of the parcel would be retained in Federal ownership, and about 14.05 acres would be transferred to the City. Therefore, the resources being transferred out of the Federal ownership would be, to that extent, less than in Alternatives A and C.

Physical impacts resulting from this alternative would be essentially the same as in Alternative C, except as follows.

1. Critical Elements

Effects on Critical Elements would be the same as in Alternative C, with the exception of the historic road traces.

Cultural/Historic Resources

In Alternative D, the most visible portions of both historic roads would be left intact in the short term, and their locations would be identified by the BLM for avoidance by any ground disturbing activities. Over the long term, all of the eastern road trace and about 500 feet of the western road trace would be preserved, and five acres of the immediate physical setting would be retained. About 200 to 236 feet of the western road trace would be disturbed in the long term (15-20 years), if the facility is expanded. The historical setting would be diminished on 14 acres in a manner similar to Alternatives A and C, by the introduction of ground disturbance and additional incompatible visual, atmospheric and audible elements. With mitigation, the project effect on the historic resource would be less when compared to Alternatives A and C. Full facility expansion over the long term would disturb about 19% of the total visible road features on the BLM parcel. Approximately 5 acres of the immediate setting and 81% of the historic resources would be retained.

This alternative provides an opportunity to develop an interpretive wayside on five acres to mitigate some of the adverse effects of the project on the historic resource. Such a development would preserve the most visible of the historic road features, retain adjacent setting for both road traces, and would allow for public visitation, heritage tourism, and education.

2. Other Environmental Components

Vegetation, soils and wildlife habitat would be impacted to a lesser degree than under Alternative C. This is because a larger area (5 acres vs. 2.2 acres) would be reserved from development in the west and northwest areas of the parcel.

Other differences in impacts from Alternative C are as follows.

a Recreational Resources

Recreational interest and visitation could be slightly greater than under Alternative C, due to the additional road segment that would be preserved. If a park or interpretive site is developed, visitation would increase.

b. Access

The public would continue to have access to about five acres in the west and northwest portions of the parcel.

c. Socio-Economics

Differences in economic impacts from Alternatives A and C relate largely to the fact that, under Alternative D, the future capacity of the wastewater treatment plant would be less than that under the other two alternatives. Although the capacity of the plant would be the same when it first goes on-line under any of these three alternatives, the eventual future capacity under Alternative D would be only about 70%, compared to the others.

This alternative would cause the City to reach the capacity of the proposed facility more quickly, thereby shortening its useful lifespan. It would make the initial construction and other procedures necessary to bring the facility on line more costly per unit of time of its lifespan. It would shorten the time period before the City would again need to go through the expense of engineering studies, land acquisition, and other necessary matters to design and build a new system.

This alternative would allow the City to comply with DEQ requirements. It would allow for considerable growth over its present population.

Alternatively, the City could choose to construct additional RI basins on its existing site when they are needed. This would increase the capacity of the plant and lengthen its lifespan. This would also result in an economic impact due to the expense for additional pipelines and pumps that would be required. Operation and maintenance costs would be higher than in Alternatives A and C.

3. Cumulative Impacts

The preservation of the most highly visible traces of both historic

roads and their adjacent setting would allow the historic site to retain significance, portraying some sense of direction and connection to pioneer travel routes and the emigrant experience of arrival near the Columbia River. Otherwise, no Cumulative Impacts have been identified that would differ from those discussed for Alternative A.

IV. Mitigation Measures

As stated earlier in the description of the alternatives, an MOA would be prepared if any of the action alternatives is implemented. This MOA could include many of the measures stated below.

A. General Measures

1. All Action Alternatives

Language would be included in the patent (the document transferring land out of Federal ownership) that would protect all existing rights-of-way on the parcel.

A limited reverter clause would require that the land be returned to BLM if the proposed plant is not constructed in five years.

If necessary, during construction of the facility, water could be applied to construction areas to help reduce soil blowing and dust.

A metal detector survey of the entire parcel would be done prior to any ground disturbance. Any artifacts recovered would be mapped and curated at a qualified museum/repository meeting federal standards.

Due to the general sensitivity of the Irrigon area, any project ground disturbing activity on the BLM parcel would be monitored by both a qualified archaeologist and Tribal monitor.

Inadvertent discovery plans would be developed for any unidentified archaeological sites and Native American graves, in consultation with CTUIR and the Oregon SHPO.

Certain water quality protection measures may be required by the local and state permitting process. Such measures could include temporary erosion and sediment control measures, for example, silt fences, hay bales, or mulch.

If necessary to control odors, buildings to house the screening and/or septage receiving facilities could be constructed. Containing and reducing the odors by enclosing these facilities would mitigate some of the adverse effect on the setting of the historic road traces.

Continued groundwater monitoring would be required by DEQ and NMFS during the life of the facility.

Construction of a secure barb wire fence would provide additional protection for the historic trail traces on those portions of the property not occupied by the proposed chain link fence.

As much as possible, areas not occupied by facilities should be seeded to native vegetation, in consultation with the BLM botanist, rather than covered with gravel.

A landscaping plan, including weed control and vegetation enhancement, should be developed to mitigate adverse effects, in consultation with BLM and Oregon SHPO.

2. Additional Measure for Alternative A

The location of the proposed chain link fence around the perimeter of the site should be changed to exclude the undisturbed portion of the road trace. This would permit continued public access to the remaining segment of this road.

B. Measures Pertaining to the Historic Road Traces

Possible measures that could avoid, minimize, or mitigate adverse effects on the historic road segments in the parcels are listed below.

1. All Action Alternatives

Record the locations of the rut segments, using Global Positioning System (GPS) and Geographic Information System (GIS) techniques for future mapping of the trail route. Forward recordings to the National Long Distance Trails Office for any future mapping of the trail route.

Include the location of the trail route in any future BLM maps of the area.

Document the site with photographs, using color and black and white photos, to record appearance, depth, and location. Use low level aerial photos (500 to 600 foot level) to record location and details on the site and relation to other remaining trail segments.

Provide copies of research, maps, and photos developed by BLM and relevant to understanding the project and locations of the trail traces to the following entities, to facilitate future access by researchers to information recovered from the site: Morrow County Historical Society, Umatilla County Historical Society, Public

Libraries at Umatilla, Hermiston, Boardman, Echo, and Pendleton, Oregon-California Trails Association Library, and Oregon Historical Society.

Include notation and interpretation of the site in future brochures, educational materials, and tourism and recreational information related to historic trails in eastern Oregon. Work with co-operating agencies and organizations to include recognition of this trail segment and history in educational, interpretive, tourism, and cultural heritage materials relevant to migration and trail history, and historic sites in northeast Oregon.

Design and install an interpretive site which will allow some level of public access to the site (such as a traffic pullout) and signs showing the location of the ruts and explaining the overall location and historical significance of the Umatilla Trail route to the Columbia River.

Plant native desert shrubs along edge of rapid infiltration basins which adjoin preserved trail areas.

Avoid any underground trenching or construction under trail preservation areas.

2. Additional Measures for Alternative A

Utilize construction techniques which minimize grading of the site and excavation for pipelines.

Omit access loop road.

In the short term, plan sequence of construction to avoid destruction of rut traces as much as possible in future expansion. Retain as much of the rut traces as possible under guidance of BLM personnel or qualified historical consultant. Relocate facility elements as much as possible to fall outside of area of existing rut traces.

Mark location of rut traces as possible in landscaping and decorative elements of the facility.

Incorporate interpretive signs accessible to the general public into the overall design explaining the location and significance of the trail.

Have a qualified historical or archaeological consultant on site during construction to record any artifacts or information uncovered.

Prior to construction of the facility, hold a “public day” for interested

individuals to visit the site, walk and view the ruts, take photographs, etc.

Work with the Corps of Engineers to develop a visitor site for the rut remnants on the north side of Highway 730.

3. Additional Measures for Alternative C

Utilize construction plans and techniques which avoid the reserved segment. Work with BLM personnel and/or a qualified historian architect to develop protection measures during construction.

Employ a qualified landscape architect to design a barrier between the reserved segment of the ruts and the wastewater facility. Construct barriers and landscape shielding using building materials and plants consistent with the native vegetation and semi-desert environment appropriate to the historic setting.

Use markers to note continuing location of road routes across the facility, and locations and direction of trail route locations removed for the purpose of the facility.

4. Additional Measures for Alternative D

These measures are the same as for Alternative C with the following addition:

Any construction of parking areas, interpretive signs, structures, barriers or fences, or walkways should be outside a 50-foot corridor along the rut traces to ensure no damage or alteration of the rut traces results from the construction.

V. Residual Impacts, Summary and Comparison

The transfer of public resources into non-federal ownership for the proposed use is presumed to be an irreversible and irretrievable commitment of resources.

Physical damage to the historic road segments would be an irreversible loss.

Residual impacts would be as described in the Environmental Consequences of the Alternatives section except as follows:

- Dust and its effect on air quality would be reduced if water is applied to construction sites.
- Odors would be confined to very small areas if buildings are constructed to house the screening and septage receiving facilities. They would be virtually eliminated outside of those buildings.
- Recreation opportunities at the site would be enhanced if an interpretive site or park is developed.
- Visual effects would be mitigated by planting of landscaping and native

vegetation.

- Public access would be preserved to any remaining historic road segments by altering the route of the chain link fence (Alternative A).

Residual Effects on Historic Road Traces

Mitigation measures would serve to document and preserve information concerning the roads, and to provide that information to the general public. Regardless, the road traces would be physically obliterated by Alternative A, except for a small segment of the westerly road trace, and a very small segment of the easterly trace, at the west end of the parcel. Mitigation measures, such as eliminating the access loop road, may result in an expansion of the intended undisturbed area, and leave more of the traces preserved, but it would be limited in amount and duration over the long term.

Alternative C would preserve potentially 60-100 feet more of the western road trace than Alternative A , but would obliterate all of the eastern road trace. About 2.2 acres of the setting would be retained.

Alternative D would preserve all of the highly visible portions of both the eastern and western road traces and five acres of the setting. The historic and natural setting of the traces would be altered in all action alternatives, but to a decreasing extent in going from Alternative A to D. Measures for planting of native vegetation would mitigate effects to the historic setting somewhat in all action alternatives.

Summary of Impacts

The tables on the next two pages provide a summary of the residual physical effects, by resource, that would result from implementation of the Proposed Action.

Critical Elements:

Air Quality	Short term - dust raised and possible soil blowing during excavation and construction Long term - elimination of odor from existing facilities Cumulative - added to effects from nearby farming and other activities
ACECs	No impact
Cultural/Historic Resources	Short term - adverse impact to Nat'l Register eligible resource (historic road segments) Long term - continuation of above Cumulative - incremental addition to other losses due to agriculture, other development
Drinking/Groundwater	Short term - lower nitrate levels entering groundwater than current background levels Long term - elimination of higher nitrate levels from current facilities Cumulative - would dilute nitrate levels from agriculture in area
Environmental Justice	No adverse impact
Prime/Unique Farmlands	No impact
Floodplains	No impact
T & E Animals	Short term - no effect to bald eagles Long term - continuation of above Cumulative - none identified
T & E Fish	Short term - not likely to adversely impact listed salmon and steelhead Long term - continuation of above Cumulative - none identified
T & E Plants	No impact
Tribal Concern/Treaty Rights	Short term - loss of opportunity to exercise grazing for estimated three AUMs Long term - continuation of above Cumulative - none identified
Solid/Hazardous Waste	No impact
Wetlands/Riparian	No impact
Wild & Scenic Rivers	No impact
Wilderness Areas	No impact

Other Environmental Components:

Vegetation	Short term - loss of about 18 acres of vegetation including Columbia Basin shrub-steppe Long term - reseeding of some of area with different species Cumulative - incremental addition to other losses of Columbia Basin shrub-steppe vegetation
Soils	Short term - dislocation and disturbance of soils Long term - stabilization of conditions Cumulative - none identified
Water Resources/Hydrology	Short term - small improvement of quality of groundwater entering Columbia River Long term - continuation of above Cumulative - small mitigation to negative effects from other uses
Wildlife Habitat	Short term - negligible loss of native habitat Long term - continuation of above Cumulative - incremental addition to other losses in vicinity
Fisheries	No adverse impact
Livestock Forage/Mgmt/Impr	No impact
Recreation Resources	Short term - some loss of historic sightseeing opportunity Long term - continuation of above Cumulative - none identified
Visual Resources	Short term - facilities would be visible Long term - continuation of above Cumulative - added to other man-made facilities in area
Mineral Resources	Short term - prohibit development of mostly low potential resources Long term - continuation of above Cumulative - none identified
Noxious weeds	Short term - destruction of weeds Long term - possible reinfestation Cumulative - none identified
Paleontology	No impact
Land Uses/Rights/Facilities	No impact, valid rights protected
Access	Short term - loss of access to all but about 1 acre of this parcel Long term - continuation of above Cumulative - None identified
Socio-Economics	Short term - maintain economy and livability of Irrigon; possible dip in nearby property values Long term - continuation of economy and livability; restoration of property values Cumulative - none identified

Comparison of Impacts Resulting from the Alternatives

This table illustrates the comparison of residual impacts that would result from each of the four alternatives.

Resource	Alternative A	Alternative B	Alternative C	Alternative D
Air quality	Dust, negligible odor, eliminate odor from existing fac.	No impact, delay in elim. of odor from existing fac.	Same as Alt A	Same as Alt A
ACEC	No impact	No impact	No impact	No impact
Cult/Hist	Adverse impact to road segments, alter setting	No project related impact. Possible increase in visitor use.	Preserve visible part of one road segment, alter setting	Preserve visible parts of both road segments, alter setting
Dr/Gr water	Lower nitrate levels	No impact	Same as Alt A	Same as Alt A
Env Justice	No adverse impact	Probable adverse impact due to effects on Irrigon	Same as Alt A	Possible adverse impact in future
Farmlands	No impact	No impact	No impact	No impact
Floodplains	No impact	No impact	No impact	No impact
T/E animals	No impact	No impact	No impact	No impact
T/E fish	Not likely to adversely impact	No impact	Same as Alt A	Same as Alt A
T/E plants	No impact	No impact	No impact	No impact
Tribal	Loss of opportunity to exercise grazing - est. 3 AUMs	No impact	Same as Alt A	Same as Alt A
Waste	No impact	No impact	No impact	No impact
Wet/Ripar	No impact	No impact	No impact	No impact
W/S Rivers	No impact	No impact	No impact	No impact
Wilderness	No impact	No impact	No impact	No impact
Vegetation	Minor loss inc. Columbia Basin shrub-steppe	No impact	Slightly less loss than Alt A	Slightly less loss than Alt C
Soils	Temp. disturbance & dislocation	No impact	Slightly less than Alt A	Slightly less than Alt C
Water/Hydro	Slight impr. in qual. of Columbia River	No impact	Same as Alt A	Same as Alt A
Wildlife	Negligible loss of habitat	No impact	Slightly less loss than Alt A	Slightly less loss than Alt C
Fisheries	Neg. beneficial impact	No impact	Same as Alt A	Same as Alt A
Livestock	No impact	No impact	No impact	No impact
Recreation	Loss of visitor sightseeing opportunity	Potential visitor increase to historic site	Opportunity to visit one rut segment	Opportunity to visit both rut segments
Visual	Minor intrusion in Class IV area	No impact	Similar to Alt A	Similar to Alt A
Minerals	Loss of opportunity to develop minor resource	No impact	Same as Alt A	Same as Alt A
Weeds	Destruction of weeds, future monitoring	No impact	Similar to Alt A	Similar to Alt A

Resource	Alternative A	Alternative B	Alternative C	Alternative D
Paleo	No impact	No impact	No impact	No impact
Land use	Valid rights protected	No impact	Same as Alt A	Same as Alt A
Access	Retain access to 1.2 acres of parcel	No impact	Retain access on 2.2 acres	Retain access on 5 acres
Socio/Econ	Maintain econ, livability of Irrigon Possible small negative effect on adj land value	Severe adverse impacts to Irrigon	Similar to Alt A for Irrigon Possible slightly greater negative effects on adj land value	Similar to Alt A for Irrigon with possible future adverse impact, same as Alt. C for adj land

VI. Sources, Supporting Documentation, Contacts, and Consultations

Most of the information contained in the Background Information, Description of the Proposed Action, and Effects on Drinking/Ground Water Quality sections of this document was taken from the "City of Irrigon, Oregon Wastewater Facilities Plan, May 1999", and "Amendment to the City of Irrigon Wastewater Facility Plan, June 2000", prepared by SCM Consultants, Inc. of Kennewick, Washington (copies in case file).

The information in the Soils and Prime/Unique Farmland sections was taken from the Soil Survey of Morrow County Area, Oregon, December, 1983 (copy in BLM Resource Area Office).

Information in the Threatened/Endangered Animals section concerning bald eagles, and information in the Threatened/Endangered Fish section is contained in the Biological Assessment prepared by biologists from Shannon & Wilson, Inc., 2001 (copy in case file).

Information in the Cultural/Historic Resources section includes information contained in a Report to the Bureau of Land Management prepared by Kate Sloan of CTUIR, 2000 (copy in BLM files).

Information pertaining to the historic road segments, including effects from the alternatives and possible mitigation measures, are taken from "Umatilla Trail at Irrigon Historic Resource Assessment" prepared by Mary Oman and Sarah LeCompte of the Baker Resource Area, October 2000, and "Evaluation of Alternatives and Effects on Cultural Resources Proposed Mitigations" prepared by Sarah LeCompte of National Historic Oregon Trail Interpretive Center, February, 2001. (Copies of both documents in case file.) Copies were sent to the City of Irrigon, CTUIR, Army Corps of Engineers, Oregon Historic Trails Advisory Council, Oregon SHPO, National Park Service Long Distance Trails Office, National Advisory Council on Historic Preservation, Oregon-California Trails Association, and Morrow County Historical Society.

On March 10, 1999, a letter was sent to Mr. Antone Minthorn, Chairman of Board of Trustees, CTUIR, advising him that the City of Irrigon intended to submit an application for the Proposed Action.

On about August 11, 1999, a letter was sent to the following, advising them of the application and inviting comments:

Nearby residents
Adjoining and nearby landowners
Holders of rights-of-way adjoining the parcel
Several officials of CTUIR
Pacific Rivers Council, Eugene
Oregon Natural Resources Council, Bend and Eugene
Oregon Trout, Portland
Army Corps of Engineers, Portland District
Bureau of Reclamation, Hermiston
National Marine Fisheries Service, Portland
US Fish & Wildlife Service, Oregon State Office
Oregon State Marine Board, Salem
Division of State Lands, Eastern Region
Oregon Department of Fish & Wildlife, Heppner
Oregon Department of Agriculture, Natural Resources Division, Salem
Oregon Parks & Recreation Department, Rivers Program, Salem
Oregon Department of Environmental Quality, Pendleton
Morrow County Board of Commissioners
Morrow County Planning Department
Dale Van Schoiack, SCM Consultants, Kennewick
City of Irrigon

On August 17, 1999, a presentation of the proposed project was made to the Cultural Resources Committee of CTUIR.

On September 29, 1999, a meeting was held onsite with Tribal and City representatives.

On December 16, 1999, a tour of the wastewater treatment plant at West Richland, Washington was led by Brad Bogus of Tetra Tech/KCM, Inc. of Kennewick, Washington. This facility has a treatment process similar to the one proposed at Irrigon.

On about November 8, 2000, a second scoping letter was sent to the earlier mailing list as above, plus officials of the entities listed below. This letter focused primarily on the presence of the alternate Oregon Trail route through the parcel.

State of Oregon Health Division, Pendleton
Greater Eastern Oregon Development Corporation, Pendleton
USDA Rural Development, Portland
Rural Utilities Service, Pendleton
Oregon Economic and Community Development Dept., Salem
Department of Land Conservation and Development, Bend
Regional Coordinator for Governor's Office, Milton-Freewater
Morrow County and Umatilla County Historical Societies
Oregon-California Trails Association, Salem, OR and Steilacoom, WA

National Park Service Long Distance Trails Office, Salt Lake City
BLM Eugene District Office
Oregon Historical Society, Portland
Umatilla Army Depot, Hermiston
End of Oregon Trail Interpretive Center, Oregon City
Historic Preservation League of Oregon, Portland
City of Echo, Oregon
Individuals in the local area who had expressed interest in the road traces

On November 28, 2000, a public meeting was held at the Stokes Landing Community Center in Irrigon. The meeting was attended by approximately 55 people. A notice of the meeting had been published in local papers and was placed on the Vale District internet site.

On dates ranging from February 16 to March 23, 2001, information was provided to and comments solicited concerning the historic road traces on the parcel from the following entities:

Oregon State Historic Preservation Office
Oregon Historic Trails Advisory Council
Confederated Tribes of the Umatilla Indian Reservation
National Park Service Long Distance Trails Office
Morrow County Historical Society
Oregon-California Trails Association
Advisory Council on Historic Preservation

Contact was made at various times with the following individuals or offices for information or clarification:

Dale Van Schoiack, SCM Consultants, Kennewick
Pat Reay, City Manager, City of Irrigon
Al E. Murrey, Oregon DEQ, Ontario
Tamara Mabbot, Morrow County Planning Director
Sharon Timms, Morrow County Planning Dept., Irrigon
Morrow County Assessor's Office
Arnold J. Theisen, City of Irrigon Councilman
Kevin Sharrai, USA Media, Umatilla
Brad Bogus, Tetra Tech/KCM, Inc., Kennewick
Oregon DEQ, Pendleton
Benton County, Washington, Assessor's Office
Michael Curcio, Director of Golf, West Richland Golf Course
County Appraiser's office - Morrow, Umatilla, Benton, Walla Walla counties
Farm Services Agency, Heppner
Bev Bridgewater, Manager, West Extension Irrigation District
Mike Renz, Oregon DEQ, Bend
John Koestler, Oregon DEQ, The Dalles
Angela Johnson, Oregon State Fire Marshall's office

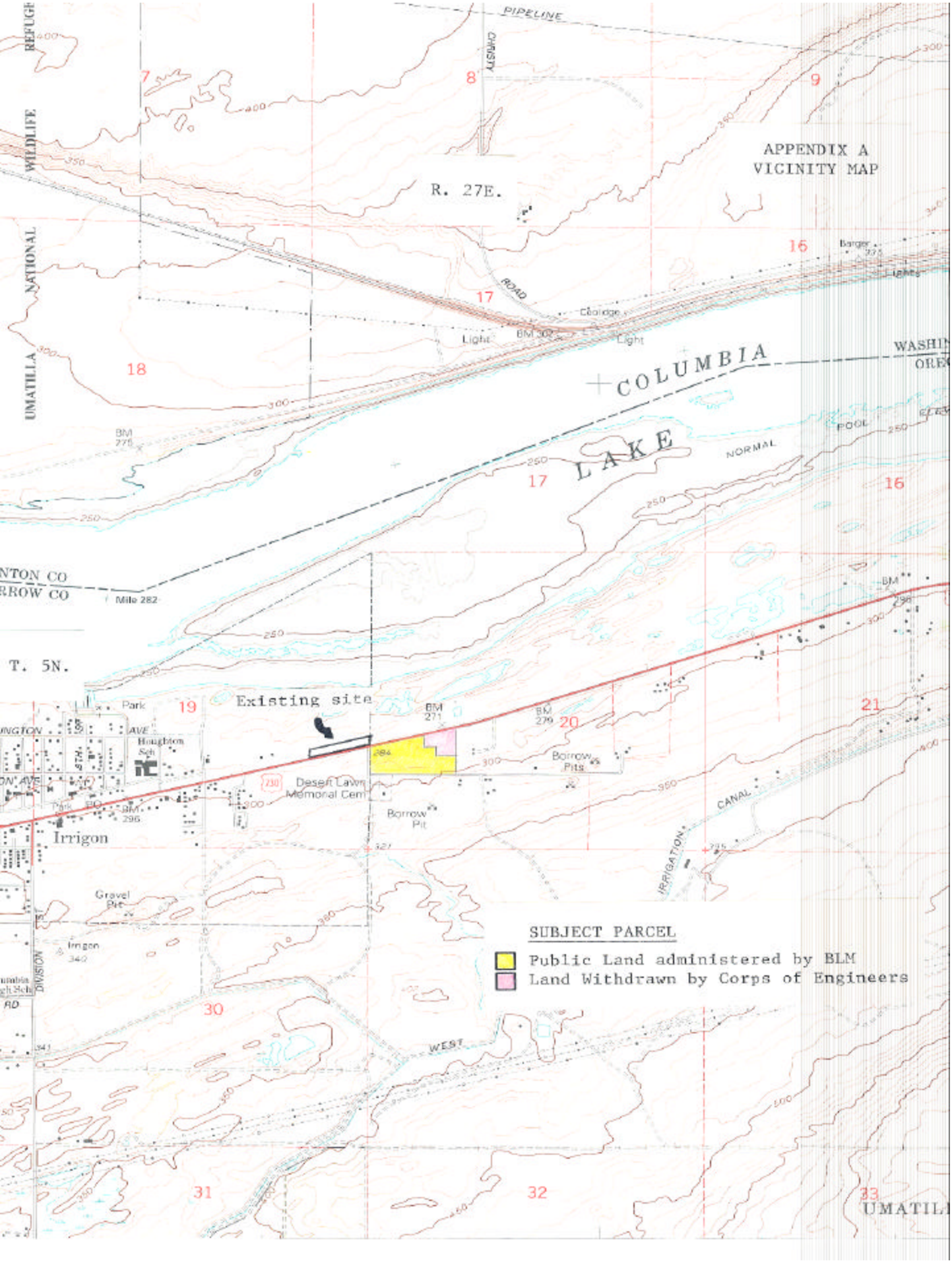
In addition to the various meetings and contacts by BLM, the City of Irrigon

provided a number of opportunities for public information and comment. These included public notices and hearings, city council meetings, and a tour of the West Richland facility.

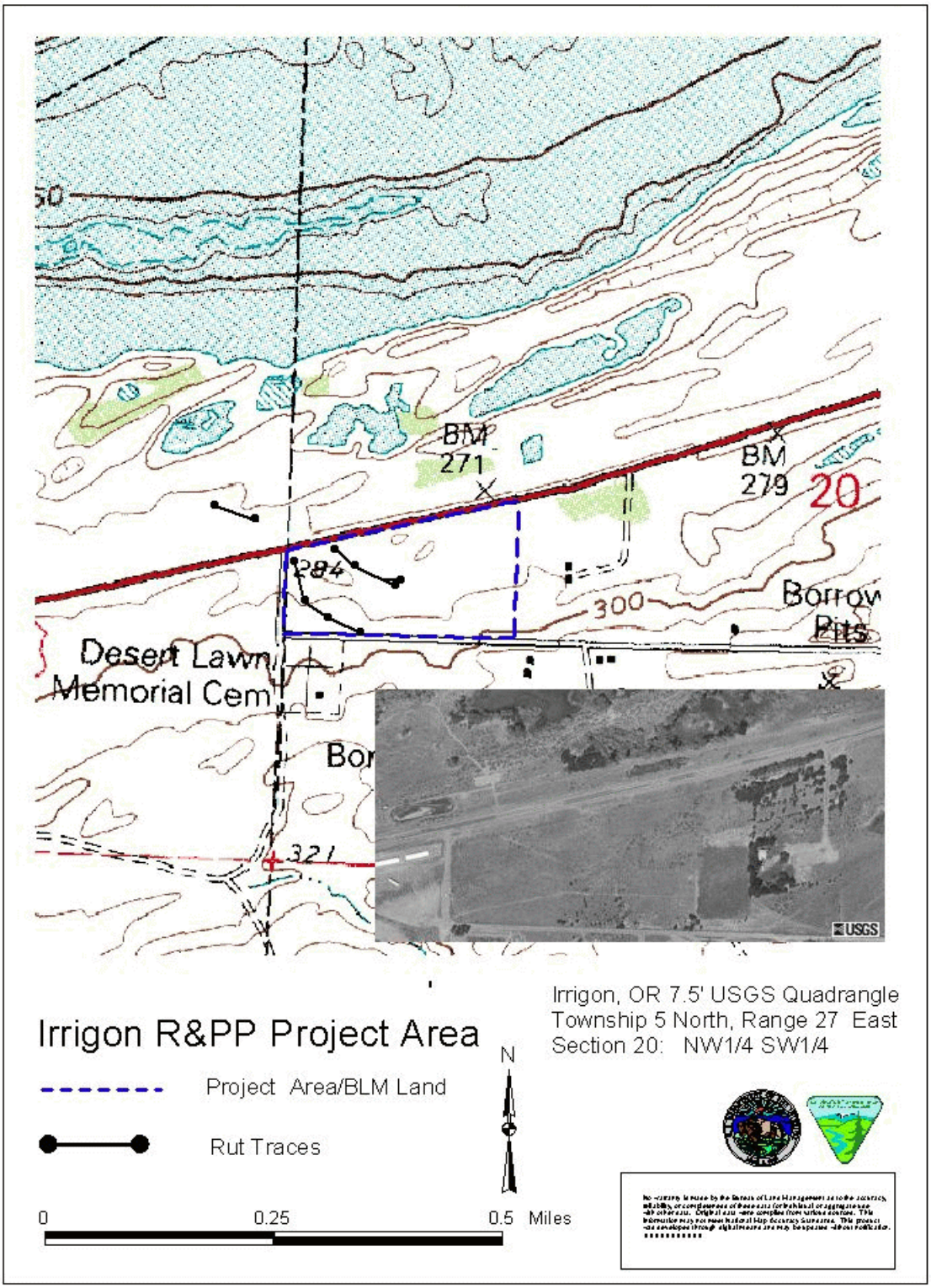
VII. Participating Staff

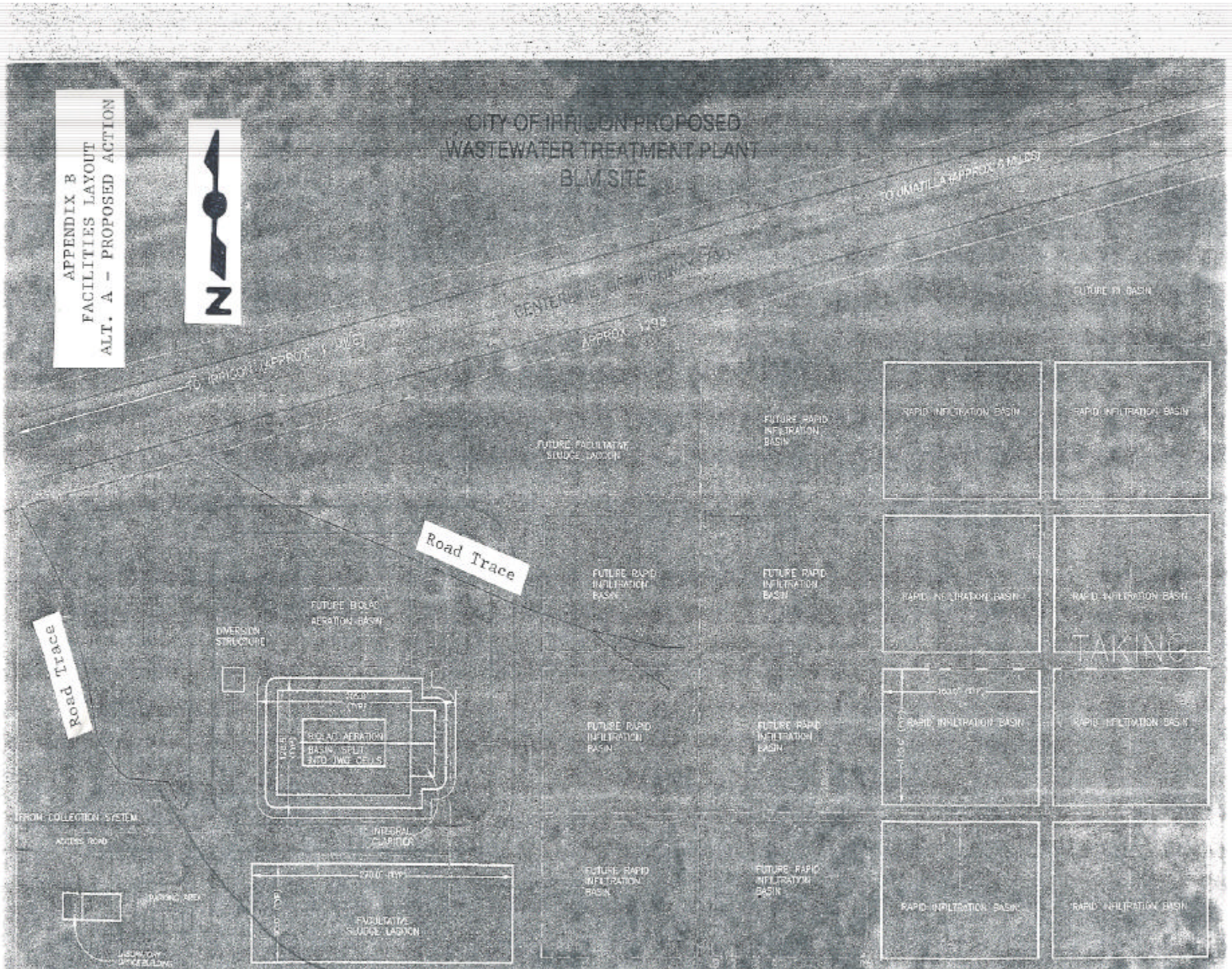
The following members of the Baker Resource Area staff contributed to the preparation of this Environmental Assessment:

Steve Davidson, Realty Specialist and principal author
Ted Davis, Multi-Resources Staff Supervisor
Mary Oman, Archaeologist
Sarah LeCompte, Historian
Clair Button, Botanist
Jackie Dougan, Fisheries Biologist
Vicki Kellerman, Outdoor Recreation Planner
Ralph Kuhns, Geologist and Hazard Materials Coordinator
Greg Miller, Wildlife Biologist
Mike Woods, Natural Resources Specialist
Todd Kuck, Hydrologist
Gene McLaughlin, Range Conservationist
Steve Coley, Fuels Specialist
Judy Reese, Geologist
John Denney, Natural Resource Specialist
Polly Gribskov, Outdoor Recreation Planner


APPENDIX A
VICINITY MAP
R. 27E.
T. 5N.
COLUMBIA
LAKE
NORMAL
POOL
PIPELINE
ROAD
Existing site
Borrow Pits
Borrow Pit
Desert Lawn Memorial Cem
Houghton Sch
Irrigon
Gravel Pit
CANAL
IRRIGATION
WEST
Mile 282
Light
BM 302
Barge Lights
SUBJECT PARCEL
Public Land administered by BLM
Land Withdrawn by Corps of Engineers

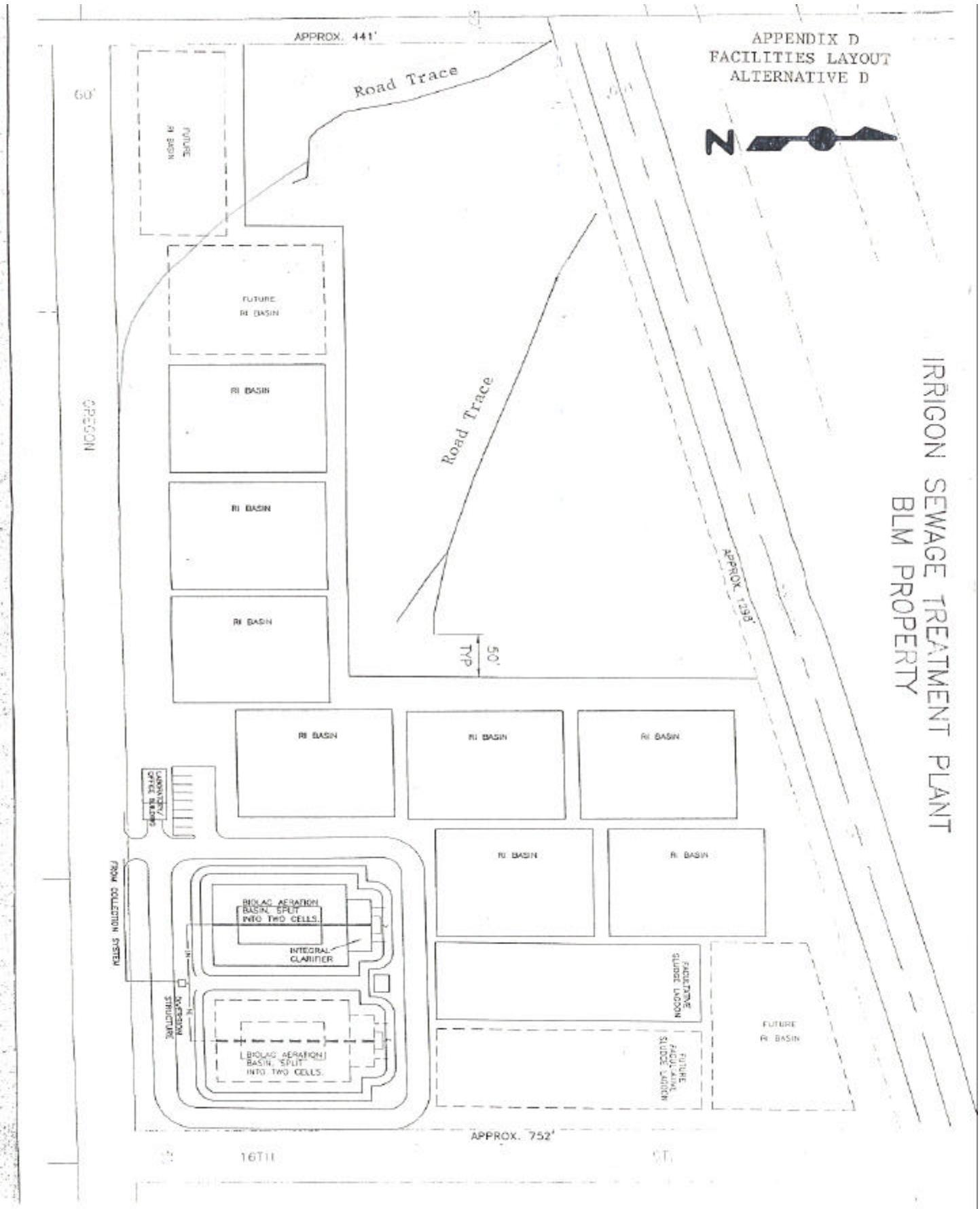
VICINITY MAP




APPENDIX B
FACILITIES LAYOUT
ALT. A - PROPOSED ACTION
N
CITY OF IRRIGON PROPOSED
WASTEWATER TREATMENT PLANT
BLM SITE
TO UMATILLA (APPROX 6 MILES)
CENTER OF HIGHWAY
APPROX 1400'
TO IRRIGON (APPROX 1 MILE)
FUTURE RI BASIN
RAPID INFILTRATION BASIN
RAPID INFILTRATION BASIN
FUTURE RAPID INFILTRATION BASIN
FUTURE FACULTATIVE SLUDGE LAGOON
Road Trace
Road Trace
FUTURE RAPID INFILTRATION BASIN
FUTURE RAPID INFILTRATION BASIN
RAPID INFILTRATION BASIN
RAPID INFILTRATION BASIN
TAKING
FUTURE BIOLAC AERATION BASIN
DIVERSION STRUCTURE
BIOLAC AERATION BASIN SPLIT INTO TWO CELLS
FUTURE RAPID INFILTRATION BASIN
FUTURE RAPID INFILTRATION BASIN
RAPID INFILTRATION BASIN
RAPID INFILTRATION BASIN
FROM COLLECTION SYSTEM
ACCESS ROAD
INTERNAL CLARIFIER
PARKING AREA
FACULTATIVE SLUDGE LAGOON
FUTURE RAPID INFILTRATION BASIN
FUTURE RAPID INFILTRATION BASIN
RAPID INFILTRATION BASIN
RAPID INFILTRATION BASIN
LABORATORY BUILDING

APPENDIX C
FACILITIES LAYOUT
ALTERNATIVE C

IRRIGON SEWAGE TREATMENT PLANT
BLM PROPERTY


APPENDIX D
FACILITIES LAYOUT
ALTERNATIVE D
N
IRRIGON SEWAGE TREATMENT PLANT
BLM PROPERTY
APPROX. 441'
APPROX. 1298'
APPROX. 752'
Road Trace
Road Trace
50'
TYP
IRRIGON
16TH
CT.
FUTURE
RI BASIN
RI BASIN
RI BASIN
RI BASIN
RI BASIN
RI BASIN
RI BASIN
RI BASIN
RI BASIN
RI BASIN
LABORATORY/
OFFICE BUILDING
FROM COLLECTION SYSTEM
BIOLAC AERATION
BASIN, SPLIT
INTO TWO CELLS.
INTEGRAL
CLARIFIER
IN
INTERNAL
STRUCTURE
OUT
BIOLAC AERATION
BASIN, SPLIT
INTO TWO CELLS.
FACULTATIVE
SLUDGE LAGOON
FUTURE
FACULATIVE
SLUDGE LAGOON
FUTURE
RI BASIN

APPENDIX E

List of Plant Species on Parcel

Chrysothamnus nauseosus
Chrysothamnus viscdiflorus
Stipa comata
Bromus tectorum
Amsinckia retrorsa
Oenothera Pallida var*. pallida*
Cymopterus terebinthinus
Opuntia polyacantha
Erodium cicutarium
Sporobolus cryptandrus
Erigeron poliospermus
Chaenactis douglasii
Achillea millifolium
Phlox longifolia
Petalostemon ornatum
Psoralea lanceolate
Artemesia dracunculus
eriogonum heracleoides
Purshia tridentata
Robinia pseudoacacia
Poa spp*.*
Agrostis spp*.*
Salsola spp*.*
Centaurea spp*.*
Balsamorhiza spp*.*
Sisymbrium altissimun
Anaphalis margaritacea